CATTLEYA PEETERSII WESTONBIRT VAR. (*see page* 357).

OH
.062
1912
V.20

# THE

# ORCHID REVIEW

An Illustrated Monthly Journal

*DEVOTED TO ORCHIDOLOGY*

---

VOLUME XX

1912

---

Bot. Garden
1913

KEW:

FRANK LESLIE & CO., 12, LAWN CRESCENT.

LONDON AGENTS:

MARSHALL BROTHERS, LTD., 47, PATERNOSTER ROW, E.C.

[*The right of reproduction is reserved*].

Bot. Garden
1913

TO

LT.-COL. SIR GEORGE L. HOLFORD, K.C.V.O., C.I.E.

VICE-CHAIRMAN OF THE ORCHID COMMITTEE OF THE

ROYAL HORTICULURAL SOCIETY,

ONE OF OUR MOST ENTHUSIATIC AMATEURS

AND

MOST SUCCESSFUL RAISER OF HYBRID ORCHIDS,

THIS TWENTIETH VOLUME OF THE "ORCHID REVIEW"

IS CORDIALLY DEDICATED.

*Kew,*

*December, 1912.*

Ea50

VOL. XX., No. 229. THE JANUARY, 1912.

# ORCHID REVIEW

Edited by R. ALLEN ROLFE, A.L.S.

## Contents.


| | PAGE |
|---|---|
| Amateur's Collection ... ... ... | 14 |
| Answers to Correspondents ... ... | 32 |
| Calendar of Operations for January ... | 18 |
| Cypripedes on limestone ... ... ... | 7 |
| Cypripedium Lord Wolmer, Westonbirt var. | 9 |
| Cypripedium Nellie and its parents ... | 13 |
| Cyrtopodium punctatum ... ... ... | 16 |
| Dendrobium Victoria-Regina ... ... | 17 |
| Epidendrum vitellinum ... ... ... | 16 |
| Events of 1911 ... ... ... ... | 4 |
| Lælia Gouldiana ... ... ... ... | 15 |
| Lælia lencoptera ... ... ... ... | 6 |
| Obituary— | 10 |
| James Douglas, V.M.H. ... ... ... | 10 |
| Sir Joseph Hooker, O.M. ... ... | 10 |
| Odontoglossums, blotched ... ... ... | 12 |
| Orchid Notes and News ... ... ... | 31 |
| Orchid Portraits ... ... ... ... | 32 |
| Orchids, a delightful hobby ... ... | 8 |
| Orchids in season ... ... ... ... | 31 |
| Our Note Book ... ... ... ... | 1 |
| Societies— | 18 |
| Manchester and North of England Orchid ... ... ... ... ... | 27 |
| Royal Horticultural ... ... ... | 18 |

ILLUSTRATIONS.

| | |
|---|---|
| Cypripedium Charlesworthii ... ... | 13 |
| Cypripedium Lord Wolmer, Westonbirt, var. | 9 |
| Cypripedium Nellie ... ... ... ... | 13 |
| Cypripedium tonsum ... ... ... | 13 |
| Dendrobium Victoria-Regina ... ... | 17 |
| The late Sir Joseph Hooker, O.M. ... | 11 |


**PRICE SIXPENCE MONTHLY.** POST FREE **7/-** PER ANNUM—SEE OVERLEAF.


# SANDER & SONS.

We receive fortnightly fresh consignments of the best

**OSMUNDA REGALIS FIBRE**

from our own freehold lands, situated in the best Osmunda producing territory of the United States of America. Price per bushel, **2/6**; per bag, **8/6.**

ROYAL WARRANT HOLDERS TO THE KING.

# Bull's Fumigating Compound.

No, 1 Bottle, **20s.**; ½ Gallon, **63s.**

THE MOST EFFICIENT AND ECONOMICAL.

ONCE TRIED BY AN ORCHID GROWER IS ALWAYS USED.

**Sole Manufacturers:**

## William Bull & Sons,

**KING'S ROAD, CHELSEA, LONDON.**

B 1.75

# NOTICES

The ORCHID REVIEW is published regularly at the beginning of each month price 6d. net. Annual Subscription, post free, 7/-, payable in advance.

Volumes I. to XIX. can be supplied unbound at 6/-, or bound in cloth, 7/6, postage extra.—Cost of postage: book post, 9d. per volume; parcel post within the United Kingdom only, 5d. per single volume (series by weight).

Also cases for binding either volume at 1/6 each, post free throughout the postal union.

The ORCHID STUD-BOOK. By R. A. Rolfe and C. C. Hurst. By Parcel Post, 7/11. Abroad, by Book Post, 8/3.

All Subscriptions, Advertisements, Communications and Books for review, should be addressed:—The **Editor of the Orchid Review,** Lawn Crescent, Kew.

Cheques and Postal Orders (sent as above) should be made payable to FRANK LESLIE & Co., and, to ensure safety in transit, should be crossed "& Co."

*Agents for copies supplied through the Trade—*

**MARSHALL BROTHERS, Ltd.,** KESWICK HOUSE, PATERNOSTER ROW, LONDON, E.C.

## SCALE OF CHARGES FOR ADVERTISEMENTS.

| | £ | s. | d. |
|---|---|---|---|
| Five lines and under in column ... | 0 | 2 | 6 |
| Per line after ... ... ... ... | 0 | 0 | 6 |
| One-eighth column... ... ... ... | 0 | 4 | 0 |
| Quarter column or eighth page ... | 0 | 7 | 0 |
| Half column or quarter page ... | 0 | 12 | 0 |
| One column or half page ... ... | 1 | 2 | 6 |
| Whole page ... ... ... ... ... | 2 | 0 | 0 |

The Editor invites communications on interesting subjects (which should be written on one side of the paper only), also portraits, &c., of rarities.

Advertisements and late news should be received not later than the 24th of the month.


# CHARLESWORTH & Co.,

ORCHID RAISERS, GROWERS,
IMPORTERS AND EXPORTERS,

# HAYWARDS HEATH,

SUSSEX,

Invite their Patrons and Friends to pay them a visit of inspection at their New Establishment,
——————where may be seen the——————

## Finest Trade Collection of Orchids In Europe.

A Conveyance will be at the Railway Station to meet Visitors, upon notification being kindly given.

CONTINENTAL BRANCH—RUE GERARD, BRUSSELS.

Catalogue Post Free. Telegrams:—Charlesworths, Haywards Heath.

Please Address—CHARLESWORTH & Co., Haywards Heath, Sussex.

# THE ORCHID REVIEW.

VOL. XX.] *JANUARY*, 1912. [No. 229.

## OUR NOTE BOOK.

"WHAT'S in a name? A Cypripedium under any other name does not appeal to me. I have lots of them in my collection, but no Paphiopedilums." Thus writes a correspondent, whose name we are not at liberty to mention, and it is only one of a series of protests that have reached us against the adoption of the late Prof. Pfitzer's name of Paphiopedilum for the Old World Tropical Cypripediums. So numerous and persistent have these protests been that we think the time has come for putting a summary of the whole case on record.

---

Objections to the use of the name Paphiopedilum have been many and various, and we cannot say that all are the result of mere prejudice against a change of name which the progress of knowledge may show to be necessary. Cypripedium, it is urged, is much too firmly established to be set aside, and nothing less than this is involved by the change, for even the hardy species, to which the name properly belongs, are in future to be called Cypripedilum, because of some grammatical error in the original construction of the name, a change which moreover completely alters the pronunciation, though adding but a single letter. After more than a century of uninterrupted use it is too late to make such an alteration, even if grammatically correct. It is not permitted by the law of priority. Again, if it be admitted that the Old World Tropical species form a distinct genus, there is an earlier name than Paphiopedilum, which latter should never have been given, and which under the law of priority cannot legitimately be upheld. A third point, that horticulturists have steadily refused to recognise the change, whether owing to prejudice or not, is held to be not only justified by the two considerations just mentioned, but also conclusive.

---

It might further have been advanced that Pfitzer originally based his genus upon the Selenipedia acaulia coriifolia of Reichenbach (expressly citing *Xen. Orch.*, i. p. 3, which only contains eight American species), hough in briefly indicating its characters he spoke of the ovary as

fluctuating between a three-celled and a one-celled condition, and then went on to speak of P. insigne and P. Spicerianum, two well-known Asiatic species. Other species were subsequently added, and on a strong protest being made against the union of the Asiatic and the American species, Pfitzer divided his genus into two sections, Cœlopedilum and Phragmopedilum. Meantime the late Count Kerchove had changed all Pfitzer's Paphiopedilums into Paphiopedium, in order to secure uniformity in spelling, and the present writer followed suit by separating the section Phragmopedilum, but changing the name to Phragmipedium, also in the interests of uniformity—the name Uropedium, which had the right of priority, being untenable, because based upon a monstrosity. Strictly speaking, Pfitzer's name should have been retained for these American species, which would have made it possible to apply an existing name to the Asiatic species. But the fact is that Rafinesque's work, mentioned below, is almost inaccessible, and the point was overlooked.

---

Three generic names had long been in existence for the Tropical Asiatic Cypripediums when Paphiopedilum was created, though they had been generally overlooked, and are not even mentioned in the *Genera Plantarum*. They were established by Rafinesque, in 1836, in his *Flora Telluriana*, a work now very scarce. They are Cordula, based upon Cypripedium insigne, Wall., Stimegas, on C. venustum, Wall., and Menephora, on a tessellated-leaved species of doubtful identity; and although, as originally proposed, they cannot be held to designate valid genera, the names are available in the event of a new name being required. Of these, Cordula* ("a nymph") is by far the most suitable, and it can claim a long priority over Paphiopedilum.

---

Of the generic distinctness of the Tropical Asiatic Cypripediums there can be no doubt. As long ago as 1842 Lindley remarked: "There is something in the habit of the Indian Lady's slippers so peculiar that it was for a long time thought that they would be found to possess characters to

* Should Cordula be accepted it would contain, beside the original C. insignis, Rafin the following species: C. Appletoniana, Argus, barbata, bellatula, Boxallii, Bulleniana, callosa, Chamberlainiana, Charlesworthii, ciliolaris, concolor, Curtisii, Dayana, Druryi, exul, Fairrieana, glanduligera, glaucophylla, Godefroyæ, Gratrixiana, Haynaldiana, hirsutissima, Hookeræ, javanica, Lawrenceana, Lowiana, Mastersiana, nigrita, nivea, Parishii philippinensis, præstans, purpurata, Rothschildiana, Sanderiana, Spiceriana, Stonei, superbiens, tonsa, venusta, Victoria Mariæ, villosa, violascens, and virens; with the natural hybrids, C. Frankeana, Kimballiana, Littleana, Petri, Shipwayæ, and siamensis, which now bear corresponding specific names under Paphiopedilum.—R.A.R.

separate them." It is a thousand pities that he failed to discover this character. What endless heartburnings it might have prevented! The plants kept their secret for over half a century, but at length it was discovered that in this group the sepals are imbricate in the bud, the lateral sepals enfolding the dorsal one, while in Cypripedium they are valvate (See *O.R.*, iv. p. 331). The character is well seen on cutting a bud across. The fact is the tribe Cypripedieæ contains four distinct and well-marked genera; (1) the original Cypripedium of Linnæus; (2) Selenipedium, Rchb. f., comprising three tall reed-like or Sobralia-like plants (not known to be in cultivation), but not the plants so-called in gardens; which latter are the Selenipedia acaulia coriifolia on which (3) Paphiopedilum was primarily based by Pfitzer, and to which it had better be limited—the earlier Uropedium being inadmissible, and Phragmipedium a creation of later date—and (4) the Tropical Asiatic species now ranked under Paphiopedilum, probably because the earlier name was overlooked. Their characters have already been given.

---

The group has been unfortunate as regards its nomenclature ever since the original mistake of Linnæus. He gave Cypripedium as derived from *Venus* and *podion*, explaining the latter as the equivalent of the Latin *calceus* (a shoe). It is therefore certain that he intended to commemorate the slipper of Venus, and should have written "*pedilon*" instead of "*podion*," the latter being the Greek for a foot. The late Sir J. D. Hooker once remarked that the simplest way out of the difficulty would be to write Cypripodium, the only objection being the aesthetic one that, considering the shape of the lip in this genus, the compliment to the goddess's foot was not a flattering one. The word "*calceus*" was probably overlooked, but it leaves no doubt as to what was intended by Linnæus, which only makes the latter's further mistake of writing "Cypripedium" the more regrettable, for *pedion* is the Greek for a plain. As it is, we suppose that the law of priority and popular prejudice will compel us to go on writing Cypripedium to the end of time, at the same time explaining to all and sundry that it means Venus's slipper. Perhaps in time we shall even come to believe it.

---

As to Paphiopedilum, its career has been a stormy one, and we have repeatedly been told that horticulturists will never use it, owing to its incurable ugliness. It may be so, but the fact that there is a much older name, which does not suffer from this defect, supplies a much stronger argument. We may hope that Cordula will meet a better fate, but we must wait and see.

---

## EVENTS OF 1911.

WE may now attempt a brief survey of the events of the past year, and if there is one feature more than another which has marked its progress it has been the steady accession of hybrids of sterling merit. Scarcely a meeting now passes without some addition to the list, and the number tends to increase as time goes on. The fortnightly meetings of the R.H.S. have, with few exceptions, produced magnificent displays of Orchids, while the great annual Show at the Temple was an unqualified success. The Summer Show, formerly held at Holland House, was on this occasion transferred to Olympia, and was confessedly somewhat of an experiment, owing to doubts about the suitability of the building for such a Show. The trade again made a brilliant display, but owing to a spell of very hot weather and the absence of shading, the exhibits did not stand as well as usual. The meetings of the Manchester Orchid Society have also produced several fine displays, and a keen competition for the numerous prizes offered. The new North of England Horticultural Society has also held several successful meetings. A great International Horticultural Exhibition was held in May at Florence, when some fine Orchids were exhibited, though the majority were from England and Belgium.

### NOVELTIES.

Novelties among imported Orchids have not been numerous, though a few interesting things have made their appearance, and among them the chaste Vanda Kimballiana alba, for which Messrs. Mansell and Hatcher received an Award of Merit, and Pleione præcox alba, which flowered at Kew. Oncidium Muelleri gained a First-class Certificate for Messrs. Sander & Sons at the Temple Show, but it is believed to be a form of O. corynephorum, Lindl. O. Claesii flowered for the first time in cultivation in the collection of Sir Jeremiah Colman, Bart., gaining an Award of Merit. Among the less showy things, some interesting novelties have appeared, as Brassia Forgetiana and Sievkingia peruviana, from Messrs. Sander & Sons, and the pretty little natural hybrid Cochlioda Floryi, which flowered with Mr. H. A. Tracy; besides a few others, which we must pass over.

### HYBRIDS.

On coming to this department, we find such a host of showy things that it becomes embarrassing to make a selection. We may commence with the two additional generic hybrids that have appeared, namely, Adioda St.-Fuscien, from M. Henri Graire, and Odontocidium Fowleri, which was exhibited by J. Gurney Fowler, Esq. Among Odontiodas we find the striking O. Cupid, in which Odontoglossum ramosissimum and Cochlioda Nœtzliana have been united, the handsome O. Boltonii and O. rosefieldiensis, O. Floryi, O. Jessopiæ, O. ornata, and O. Papilio; while Oncidioda has

received two additions, O. Penelope and O. Cybele. A hybrid Trichopilia has now appeared, in T. Gouldii, raised from T. suavis and T. fragrans by Messrs. Charlesworth, which received an Award of Merit ; while Cœlogyne burfordiensis, raised in the collection of Sir Trevor Lawrence, Bart., from C. pandurata and C. aspersa, gained a similar award. Odontoglossum produced two striking hybrids from O. maculatum and O. Wiganianum in O. Harwoodii, and the still showier Shrubbery variety, both of which were distinguished by the award of First-class Certificates, while O. Jeanette, another of Messrs. Charlesworth's hybrids, derived from O. Rossii rubescens and O. amabile, obtained a similar award. These are additional combinations between the Mexican and Colombian Odontoglossums, and remarkably handsome. Accessions to the ranks of secondary hybrids have been both numerous and beautiful, and in several cases the parentage has been lost or unrecorded. In fact, the progress in this genus has been so great that hybrid Odontoglossums are rapidly becoming florists' flowers. Similar remarks might be applied to several other popular genera in which rapid progress is being made. In fact, hybridisation and selection are changing the nature of our collections in a way scarcely dreamed of a generation ago.

## CERTIFICATED ORCHIDS.

First-class Certificates were awarded by the R.H.S. to thirty-eight Orchids, and these were mostly hybrids, the exceptions being Dendrobium Victoria-Regina and Oncidium Muelleri. An analysis of the list shows eleven Odontoglossums, Odontioda and Læliocattleya six each, Cypripedium five, Cattleya and Brassocattleya two, with single examples of Calanthe, Dendrobium, Miltonia, Oncidium, Sophrocattleya and Sophrocatlælia. Those which received Awards of Merit number sixty, and here again Odontoglossum heads the list, with thirteen, followed by Cypripedium with ten, Cattleya and Læliocattleya six each, Odontioda five, Cymbidium four, Brassocattleya, Miltonia and Trichopilia two each, while Catasetum, Cœlogyne, Diacattleya, Epidendrum, Gongora, Houlletia, Oncidioda, Oncidium, Sophrocatlælia and Vanda, each contributed a single example, Several of these plants have been figured in our pages. Sixteen Cultural Commendations were given to plants showing a high standard of culture, and a Certificate of Appreciation was given to the interesting Odontocidium Fowleri. Eight Botanical Certificates were also given early in the year, but this award was afterwards transferred to the Scientific Committee. A large number of awards were given by the Manchester Orchid Society, but we have not attempted an analysis.

## NOMENCLATURE.

The question of Nomenclature has received great attention during the year, owing to the issue of the Report of the R.H.S. Committee appointed

to consider the question of Multigeneric Hybrids, and of the Rules of Horticultural Nomenclature adopted by the International Congress of Horticulture held at Brussels, both of which have appeared in our pages (pp. 7, 130). There is also an interesting series of replies from the R.H.S. to questions submitted to it by the International Congress (p. 322). It may be added that the rules for the nomenclature of multigeneric hybrids were applied for the first time in our February issue, when Vuylstekeara insignis was described.

### OTHER INTERESTING EVENTS

which we may recall are the proving of the parentage of five natural hybrids, Lælia Crawshayana (p. 47), Læliocattleya amanda (p. 216), L.-c. elegans (pp. 262, 319), L.-c. Verelii (p. 316, fig. 43), and Cattleya sororia (p. 349); the discovery of the habitat of Cymbidium Tracyanum (p. 39), and the publication of three instalments of the supplement to the *Orchid Stud-book* (pp. 33, 74, 228).

### LOSSES DURING THE YEAR.

Among famous Orchidists who have passed away during the year we may recall Dr. Harry Bolus, F.L.S., who did so much for Cape Orchidology and more recently Mr. James Douglas, and Sir Joseph Hooker, whose obituary notices appear in the present issue.

### THE COMING YEAR

promises some innovations. The dropping of such an important function as the Temple Show is an event that cannot be passed over unnoticed, but its place is to be taken by the great International Horticultural Exhibition to be held at Chelsea during the last week in May, from which so much is expected. It may provide a surprise, and we may hope that it will prove an unqualified success. Other surprises may be furnished by our hybridists, but prophecy is dangerous, and we will conclude by wishing our readers A Happy New Year, and increasing prosperity to their collections.

---

LELIA LEUCOPTERA.—An interesting natural hybrid has just flowered at Kew. It may be remembered that over four years ago some notes on the Mexican Lælias, by M. Juan Balme, appeared in these pages (*O.R.*, xv. pp. 302, 303). Some time later a small plant, which it was suggested was a natural hybrid of L. furfuracea, was sent by post. It has now produced a two-flowered scape, and agrees well with L. leucoptera, Rolfe (L. Crawshayana var. leucoptera, Rchb. f.), now believed to be a natural hybrid between L. furfuracea and L. albida, which M. Balme has found growing together in the State of Oaxaca. The flowers are light purple, larger than those of L. albida, with rather more of the L. furfuracea shape. It originally appeared in 1884 in the establishment of Mr. A. A. Peeters, St. Gilles, Brussels, and is still very rare. R.A.R.

## CYPRIPEDES ON LIMESTONE.

I AM pleased to find that my little paper has induced an observer to record facts. Mr. Lyon is far too generous in his praise. He is probably unable to consult a complete set of the *Orchid Review*, and, therefore, does not realise that, to a very large extent, I merely collected the observations of others. I am particularly glad that Mr. Lyon records a difference between the growth of plants in limestone and those in mortar, as it is further evidence of the need of attention to apparently trifling differences. I cannot, I am afraid, agree with Mr. Lyon when he says, "how little after all we can utilise a knowledge of plant environment." We cannot put a whole limestone cliff in an Orchid house, and we do not always get such a generous allowance of sunshine as Mr. Lyon describes, but we can construct crevices in limestone suitable for plants to root in, and we can make more use, if need be, of the sunshine we have. There should be no great difficulty in reproducing, at any rate partially, the conditions under which Cypripedium philippinense and C. Haynaldianum grow naturally, without damaging the plants. I believe that with very little trouble we could come much nearer to natural conditions with benefit to the plants. All growers of Cypripedes should be grateful to Mr. Lyon for the facts he has recorded, but we are still short of information, and I hope he will be able to give us some more.

If I had been able to continue Orchid growing I intended, as an advance towards natural conditions, to try the effect of an artificial breeze, produced by a rotary fan, on the plants. The house would generally have to be shut up while the fan was at work in case cold draughts were produced by drawing in air through the ventilators. There are probably few Orchids that live in a still and stagnant atmosphere naturally, and as a breeze supplies the plants with passive exercise by moving the leaves it must have an effect; probably a beneficial one.

Many Orchids, too, come from districts where there are frequent thunderstorms. Every flash of lightning produces a quantity of various oxides of nitrogen. These oxides when nearly formed are in an extremely active state, and ready to form compounds with various matters with which they come in contact. The same oxides (incorrectly called ozone) could be produced in an Orchid house by a suitable electrical machine, such as a Wimshurst. A house might be shut up for half an hour while the machine produced a miniature thunderstorm. If the thunderstorm were followed up by a very fine spray, continued for some time, a large part of these nitrogen oxides would be dissolved by the spray and carried down on to the plants. probably with nourishing and other beneficial effects. I wanted to try this experiment three years ago but had not the time. Of course these

electrical discharges in an Orchid house might have other effects on the plants, such as those noted in Sir Oliver Lodge's experiments, but my theory was derived purely from the chemical and manurial side of the question.

When any species of Cypripede is found growing commonly with another plant (as C. philippinense and dwarf Polypodium observed by Mr. Lyon), I think it would be well worth while trying to grow both in the same pot. In several cases where weeds have been growing in the same pots with Orchids I have noticed that the Orchids seemed to benefit by the presence of the weeds, and to lose by their removal. I am inclined to think that the presence of a natural neighbour in the same pot with an Orchid might tend to produce more stable conditions in the compost and its contained air, and possibly other good results.

MILES JOHNSTON.

## ORCHIDS: A DELIGHTFUL HOBBY.

IT has occurred to me that your readers might be interested to know something of the results of a very crude amateur, after the careful perusal of your monthly paper (from which so much valuable information has been obtained). It was some two years ago that I casually came across a copy of the *Orchid Review*, and which I think was the spark that kindled the fire of enthusiasm to try my hand at growing a few Orchids. Having a small greenhouse, measuring about 18ft. by 7ft., I forthwith gave it a general clean up and began straight away with a few Cypripediums. Having got these it began to dawn upon me that I had undertaken a task which required a lot of time. However, I persevered, and soon added more plants, and to-day my little house contains some 135 Orchids, including Cypripediums, Odontoglossums, Cattleyas, Lælias, Vandas, Oncidiums, Cymbidiums, Dendrobiums, Calanthes, Masdevallias, Cœlogynes, &c., arranged for light and warmth according to their requirements, and at the moment I have 47 plants in bloom or bud, many of which are the second time of flowering with me, and gardeners tell me the collection is exceedingly healthy. No doubt it is a mixed one, but all seem to do well. Now as regards time, &c., in attending to the plants, you will gather what it is when I tell you I am away at my business 12 to 14 hours every day of the week, and keep no gardener, because I cannot afford or have enough work for one. Moreover, my little greenhouse is built between two dwelling-houses, and consequently does not get a lot of sun, but to me it is as balm after a busy day to look over my plants, and with little expense or time the pleasure of showing our friends the result of our little labour is great, even if there is not room for more than one at a time in the house.

The Nook,
Ashford Road, Maidstone.

EDWARD CLEMENT.

## CYPRIPEDIUM LORD WOLMER, WESTONBIRT VAR.

AT the R.H.S. meeting, held on December 19th last, a handsome secondary hybrid was exhibited from the collection of Lieut-Col. Sir George L. Holford, K.C.V.O., Westonbirt (gr. Mr. H. G. Alexander), under the name of Cypripedium Lord Wolmer, Westonbirt var. (Leeanum × Euryades leopardinum), to which an Award of Merit was given. A photograph has been kindly sent, which is here reproduced. The flower, as will be seen, is

Fig. 1. CYPRIPEDIUM LORD WOLMER, WESTONBIRT VAR.

of excellent shape, and the dorsal sepal very broad, white, with a green base, a broad purple median band, and numerous small purple spots, which are very regularly arranged, while the lower sepal is very large and similar in colour. The petals and lip are very broad, the former having an undulate upper margin, while the colour is greenish yellow, tinged, veined and somewhat spotted with brown. Three species are concerned in its ancestry. C.

insigne, Spicerianum, and Boxallii. The two former when intercrossed yielded C. Leeanum, and this with Boxallii gave C. Euryades, which again united with Leeanum produced the present hybrid. An analysis of parentage would give C. insigne and C. Spicerianum $\frac{3}{8}$ each, and C. Boxallii $\frac{1}{4}$. It is a very beautiful acquisition, and shows well the rapid improvement which is being effected in these useful winter-flowering Orchids.

## OBITUARY.

JAMES DOUGLAS, V.M.H.—It is with deep regret that we have to announce the sudden death, at the age of 74, of Mr. James Douglas, V.M.H., the well-known florist and nurseryman of Great Bookham, Surrey, which took place on November 24th, after an operation. Mr. Douglas was so well known as a florist that some of our readers may have scarcely known him as an Orchidist, but he has always taken a great interest in Orchids, and was a highly successful grower and exhibitor at the metropolitan shows during the long period that he was gardener to F. Whitbourn, Esq., of Great Gearies, Ilford, and at a time when large specimens were popular. He also took up the work of hybridising Orchids, and continued it to the last, though chiefly as a hobby, and in this connection we recall his proving the parentage of Læliocattleya Gottoiana, having flowered seedlings in 1900 which he had raised from Cattleya Warneri ♀ and Lælia tenebrosa ♂. It had originally appeared in 1891, in the collection of E. Gotto, Esq., The Logs, Hampstead Heath, when its origin was a mystery, though it was obviously a natural hybrid. Its history has been given in these pages (i. p. 338; viii. p. 358). He was also the raiser of the hybrids Cypripedium Charles Canham and C. Mrs. Canham, which flowered in 1887, the parentage being, respectively, C. superbiens × villosum and the reverse cross, also of Lælia Briseis (harpophylla ♀ × purpurata ♂), which flowered in 1897. We do not remember any special account of his work with Orchids, but he was a great admirer of them, and among the works of his fine horticultural library a complete set of the *Orchid Review* held an honoured place. For many years he was a member of the Council of the R.H.S., and on his retirement was awarded the Victoria Medal of Honour for his services to Horticulture. He was a member of the Floral and Scientific Committees up to the last. His numerous other activities, which do not come within the scope of this journal, have been fully dealt with in the horticultural press. He was interred at Leatherhead, on Wednesday, November 29th.

SIR JOSEPH DALTON HOOKER, O.M.—This distinguished botanist passed away at his residence at Sunningdale on December 10th last, in his 95th year, and the world of science has lost one of its greatest ornaments. Born at Halesworth, Suffolk, on June 30th, 1817, and educated at Glasgow University, where his father, Sir William Hooker, was Regius Professor of

Botany, he took the degree of M.D. in 1839, being shortly afterwards appointed assistant surgeon and naturalist to the Antarctic Expedition under Sir James Ross. After a four years' adventurous voyage, during which he accumulated a valuable series of specimens and observations, he published a series of six fine quarto volumes, under the titles, *Flora Antarctica*, *Flora Novæ-Zelandiæ*, and *Flora Tasmaniæ*. In 1847 he visited the Himalayas, spending three years in studying the geography and flora of that remarkable region, and making extensive collections. The story of the expedition, including details of the Orchid life of the region, is told in

Fig. 2. THE LATE SIR JOSEPH HOOKER.

his *Himalayan Journals*, two delightful volumes which were published in 1854. A year later he was appointed Assistant Director of the Royal Botanic Gardens, Kew, and on his father's death, in 1865, succeeded to the Directorship, which he held for twenty years. In 1860 he visited Syria and Palestine, and in 1871 undertook an expedition to the mountains of Morocco, in company with Mr. John Ball, F.R.S., and Mr. George Maw, while in 1877 he made a botanical tour in the Rocky Mountains of North America, in company with the late Dr. Asa Gray. In 1873 he was elected

President of the Royal Society, an office which he held for five years. His numerous books and papers must be passed over, but we must not omit the monumental *Flora of British India*, of which so many Orders were worked up by himself, and among them the Orchidaceæ, including some 116 genera and nearly 1300 species. His other contributions to Orchidology were great, for he worked up the Orchids of Ceylon and of New Zealand, while the number of Orchids figured in the *Botanical Magazine* during his long editorship, from 1865 to 1904, must have been very great. As long ago as 1854 he published an important paper on the structure and fertilisation of Listera, and there are several references to his work in Darwin's *Fertilisation of Orchids*. His scientific work extended over an ordinary lifetime, and, incredible as it may appear, he was a Fellow of the Linnean Society for over 69 years. His powers of observation and generalisation were remarkable, and his industry almost amounted to a passion, and never deserted him to the last. The world of science has lost an acknowledged master, whose influence was immense, and whose kindliness of disposition endeared him to all who came in contact with him. Sir Joseph Hooker was the recipient of many academic honours, and of medals from the Royal, Linnean, and Geographical Societies, and from the Society of Arts. He was made C.B. in 1869, K.C.S.I. in 1877, G.C.S.I. in 1897, and on his ninetieth birthday he received the Order of Merit. He was interred at Kew Parish Church on Friday, December 15th, when a large number of his old colleagues and representatives of the learned societies were present. For the loan of the block we are indebted to the courtesy of the proprietors of the *Gardeners' Magazine*.

---

BLOTCHED ODONTOGLOSSUMS.—A flower of an interesting Odontoglossum has been sent from the collection of John S. Moss, Esq., Wintershill, Bishops Waltham, which the sender well remarks could only have been called a blotched crispum had it appeared among imported plants. It is from the batch of seedlings mentioned at p. 234 of our last volume as obtained from O. crispum × bellatulum, and thus is three-fourths derived from the former, O. bellatulum having been derived from O. crispum × tripudians. It serves as a further confirmation of the fact that what have long been called blotched crispums are compound hybrids between O. crispum and the species with which it grows, and from further intercrossings, doubtless continued through countless generations. It cannot be said, however, that the form sent is absolutely identical with any wild form, for O. tripudians is not known to grow with O. crispum, and a careful comparison reveals slight differences from anything we remember to have seen among imported plants. We should like to see the species intercrossed which grow together in a wild state. R.A.R.

## CYPRIPEDIUM NELLIE AND ITS PARENTS.

THE annexed illustration represents the brightly-coloured Cypripedium Nellie (fig. 4), with its parents, C. tonsum (fig. 3), and C. Charlesworthii (fig. 5). The flowers were sent from the collection of O. O. Wrigley, Esq., Bridge Hall, Bury, by Mr. Rogers, who remarked that the former was really a stray seedling, but agreed well with others from a batch of tonsum × Charlesworthii that had already flowered, but was superior in every respect. The two parents were enclosed for comparison, and as an examination left no room for doubt of their relationship, the photograph here reproduced was taken by Mr. R. T. Rolfe. It is interesting to see the way the characters of the parents have been combined. The dorsal sepal is rose-coloured, but darker at the base and more distinctly veined than in C. Charlesworthii, while the apiculus of C. tonsum is well shown. The petals and lip are fairly intermediate in shape, but the former is darker than in either parent, with indistinct traces of spots. The staminode is most like C. tonsum, but with a trace of the porcelain white colour, which forms such a striking feature in C. Charlesworthii. A curious fact was detected in comparing the three flowers. C. tonsum takes its specific name ("shorn") from the

Fig. 5. C. CHARLESWORTHII. Fig. 4. C. NELLIE. Fig. 3. CYPRIPEDIUM TONSUM.

absence of hairs on the upper margin of the petals, but the peculiarity does not extend to the lower margin, which is closely set with minute short hairs. This character was noticed in the hybrid, and a closer examination showed that it was also present in C. tonsum. C. Nellie, as thus seen, is a very bright and attractive hybrid, with a marked resemblance to C. Charlesworthii in the colour of the dorsal sepal. The leaf is tessellated about as strongly as in C. Harrisianum. The figures, of course, are greatly reduced.

## THE AMATEUR'S COLLECTION.

By C. ALWYN HARRISON, F.R.H.S.

### COOL HOUSE.

THIS totally unseasonable weather is most detrimental to the welfare of our plants, and the only point which can be urged in its favour is, that less artificial heating need be maintained. An average temperature of 48° Fahr. by night and 53° by day is ample, and this can now be easily maintained without the need of large fires. At this season of the year little air can generally be given, but during this spell of mild weather, plenty can be admitted. The house should always be sufficiently ventilated to prevent it feeling at all stuffy. All growing plants must be kept damp, but as they do not dry quickly now, less will be needed than in cold frosty weather. A safe rule for beginners may be thus expressed :—

Water all plants in active growth every two or three days, those in spike or flower daily, but those at rest only once weekly. When watering a plant, always remember to give enough to moisten the *whole* compost, not merely sufficient to wet the surface, as the moss above will not give a clear indication of the compost about the plant's roots beneath. Beginners often lose plants because an appearance of adequate dampness is given by the surface soil, whilst the roots below are dust dry. During this dull weather, overhead syringing is best dispensed with.

This is now a good time to thoroughly clean the inside of the houses, wash pots, sponge leaves, and remove all dead and decayed bulbs and roots. I am a strong advocate of syringing between the pots once a week throughout the year with liquid insecticide, especially directing it between the cross pieces of the staging, for prevention is better than cure. It need not be remarked that the spray must not be allowed to lodge on the leaves, but should be done just over the level of the wood-work.

The operation of potting can now be started. All autumn-flowering Cypripediums which are needing a shift should now receive attention. Carefully remove them from the old pot, trim all dead roots off, remove decayed leaves, and separate the portions which are crowded in the centre. Fill the fresh pot one-third full of clean crocks, and on these set the plant, so placing the various portions that they have room to develop in all direc-

tions. For compost, use a mixture of good fibrous loam, crushed crocks and a little sphagnum moss. This should be used in a damp state and the plants potted firmly. Give little water until a firm hold has been taken in the new soil.

This house should now be exceedingly gay, with Cypripediums of the insigne class, nitens, villosum, and their countless hybrids. Many Oncidiums and Odontoglossums should be in bloom, or throwing up their spikes. Epidendrum vitellinum majus should be still a bright member of the collection, together with Cymbidium Lowianum, Odontioda Vuylstekeæ, and others, too numerous to mention.

### SUGGESTED ADDITIONS.

ODONTIODA CRAVENIANA.—This is an exceedingly pretty hybrid between Cochlioda Nœtzliana and Odontoglossum cordatum. The flowers are of good size, and freely borne on long arching spikes, usually in the late spring, and keep several weeks in beauty. The sepals and petals are of a deep red colour, no trace of other tints being visible. The lip, however, is creamy white in front, changing to a salmon red, with a brilliant yellow crest. In growth, in the manner in which the flower spikes are produced, and also in respect to their shape, this hybrid most resembles the seed-parent.

CYPRIPEDIUM INSIGNE SANDERÆ.—This is one of the most beautiful forms in existence, and is an albino or yellow variety of the species. Fortunately the plant is a free grower, and produces in the winter months its handsome flowers, which, if kept cool and shaded, frequently last from ten to twelve weeks in beauty. It is dearer than the ordinary species, but is well worth the additional cost, and is one of the easiest and most accommodating Orchids to cultivate. The petals are of a clear lemon, the dorsal sepal also of the same colour, with a few minute brown specks, and a broad white margin, and the under sepal apple green. The pouch is also of a clear lemon. This fine variety is particularly constant, and is even largely grown by those who are not lovers of this class generally. Like the species, it can be grown in a greenhouse or vinery.

## LÆLIA GOULDIANA.

SOME time ago Messrs. Sander & Sons obtained an importation of Lælia Gouldiana, a fact which occasioned surprise, owing to the belief that it is a natural hybrid. Now that the plants are beginning to flower there is no doubt about their identity. Some three years ago, when describing the collection of Sir George L. Holford, Westonbirt, allusion was made to "a very interesting seedling from Lælia anceps ♀ and L. autumnalis ♂, which it is supposed may prove to be a home-raised L. Gouldiana" (*O.R.*, xvi. p. 356). We did not see the flowers, but afterwards learnt that some of the plants had been acquired by Messrs. James Cypher & Son, who have

now kindly forwarded a three-flowered inflorescence for comparison. There has always been a doubt about the origin of L. Gouldiana, which was much strengthened when M. Juan Balme told us that L. autumnalis and L. anceps grew in very different districts (*O.R.*, xv. p. 302). We can now say that Mr. Alexander's seedling is not L. Gouldiana, Rchb. f., and we have not seen anything quite like it before. It is more like L. autumnalis in general shape, with a distinct approach to L. anceps in the shape of the segments, in the presence of some reduced anceps-like veining on the disc of the lip, and in its longer bracts. It is paler in colour than L. Gouldiana. It may be called L. Alexanderi, in recognition of Mr. Alexander's praise-worthy attempt to solve a puzzling problem. As for L. Gouldiana, we suppose it must be a distinct local species, and we think the time has now come when its mysterious habitat might be stated. Habitat is always an important factor in tracing the origin of natural hybrids, unless they come out of some definite importation. R.A.R.

CYRTOPODIUM PUNCTATUM AT HOME.—I send you a photograph of Cyrtopodium punctatum, taken *in situ*. It will be observed that the plants are at rest, having shed their foliage. They occur in great masses in the low hills on the Pacific side of the Isthmus of Tehuantepec, relatively a dry zone, with about 40 inches of rain; the wet season being short, not over four months. The elevation is 1000 feet above sea level, and the surrounding vegetation affords an indication of the climatic conditions.—J. C. HARVEY, Vera Cruz, Mexico.

[The photograph shows several very fine clumps of this Orchid growing on a sloping rocky bank, with the remains of some old flower scapes, while close by are clumps of Agaves, with some bushes behind. They evidently make a brilliant display when in full bloom. It may seem remarkable to find Orchids growing in association with such well-known succulent plants as Agaves, but a good many species inhabit regions having a dry season, and as a class they are much more variable in their requirements than is often recognised.—ED.]

EPIDENDRUM VITELLINUM.—A photograph showing a fine clump of Epidendrum vitellinum, in remarkably well-cultivated examples, is sent by O. O. Wrigley, Esq., Bridge Hall, Bury (gr. Mr. Rogers). The plants are pictures of health, and carry numerous spikes, about twice as long as the leaves, and some of them branched. Mr. Wrigley remarks: "They have been in the collection since 1905, and they are all much better grown than they have been previously." Epidendrum vitellinum is a highly decorative plant, and when well grown its brilliantly-coloured spikes make a most brilliant display.

## DENDROBIUM VICTORIAR-EGINA.

THE annexed figure represents the fine specimen of the Philippine Dendrobium Victoria-Regina, from the collection of Sir Trevor Lawrence, Bart., to which a First-class Certificate was awarded by the R.H.S. on July 18th last, also a Cultural Commendation to Mr. W. H. White.

Fig. 6. DENDROBIUM VICTORIA-REGINA.

It bore upwards of thirty spikes of its very distinct violet-blue flowers. The species was described in 1897, by Loher (*Gard. Chron.*, 1897, i. p. 399), being dedicated to her late Majesty Queen Victoria. It was remarked: "This is doubtless one of the most wonderful Dendrobiums, both for its beautiful blue colour and for free flowering, and one that will soon be a

great favourite with Orchid collectors. It grows at an altitude not lower than 2000 metres (6500 ft.), and the temperate house suits it best. Its branching stems produce great numbers of richly dark blue and white blossoms borne in trusses, and lasting in bloom for several weeks. The flowers are over an inch in diameter: the sepals and petals at the base are white, with a great blue blotch at the edges; the lip ovate-oblong and of the same colour." Some plants were sold by Messrs. Protheroe and Morris at about the same time, and soon flowered, for on August 10th one of them received an Award of Merit from the R.H.S., when exhibited by T. Statter, Esq., Stand Hall, Manchester. For some time a difficulty was experienced in cultivating it, probably because the necessity for cool treatment was not fully realised, but after some experiments it was found that the roof of the Odontoglossum house was the most suitable place for it, and in such a position the plant figured has long been grown. In such a position, too, was grown the remarkable specimen for which Richard Ashworth, Esq., Newchurch, received a Cultural Commendation at the Temple Show in 1909 (*O.R.*, xvii. pp. 182, 205), and at Harefield Hall, Wilmslow, we have also seen a number of plants growing and flowering freely suspended from the roof of the Odontoglossum house. It is now known to be a native of the province of Benguet, in Northern Luzon, having since been collected by Elmer, on Mt. Santo Tomas. It also occurs on Mt. Halcon, in the Island of Mindoro, where it was collected by Merrill, in dense wet mossy forests at 8000 feet elevation, and by Merritt at 6500 feet. The latter mountain is described as having a remarkably humid climate, the rainy season continuing for practically nine months of the year, from May to January without interruption, while the remaining three months are by no means free from precipitation. From these facts one can readily understand why this beautiful species requires a cool moist climate for its successful culture. For the loan of the block we are indebted to the courtesy of the Editor of the *Journal of Horticulture*.

## CALENDAR OF OPERATIONS FOR JANUARY.

By J. T. BARKER, The West Hill, Hessle, E. Yorks.

THE cultivator will now be looking forward to longer days, when his plants will once more be starting into growth, and at no season of the year are they more interesting to the persons responsible for their well-being. The general winter treatment must be continued for the present month, and the principal work to occupy our attention will be to maintain the temperatures (especially should cold weather prevail)—to provide suitable atmospheric conditions in the houses, avoiding extremes of all kinds, and making no attempt to force growth; also to get our plants into a state of cleanliness, ready for when the busy season of potting arrives.

TEMPERATURES.—To those who may not have the figures given last January, I now repeat them:—

Cool house: day, 50° to 55°, with sun 60°; night, 50°.

Intermediate house: day, 60° to 65°, with sun 66°: night, 57° to 60°.

Cattleya and Mexican house: day, 60° to 65°, with sun, 68°; night, 58° to 60°.

East Indian house: day, 65° to 70°, with sun, 75°; night, 65°.

In speaking of temperatures, these figures are only given as a guide, and no harm will occur if they vary one or two degrees either way. I think it is impossible to keep houses at a fixed figure in all kinds of weather.

VENTILATION is essential on all favourable occasions. I am a firm believer in fresh air for our plants, as I believe a stuffy stagnant atmosphere most injurious. Discrimination, however, must be used in the admission of air, so that no plant is placed in a draught, as draughts are most injurious.

ATMOSPHERIC MOISTURE must be regulated according to the weather conditions. If much fire heat has to be used, more moisture is required to counteract it, but the great thing to avoid is a house over-laden with moisture, and a low temperature. On entering a house that is in such a state, one feels as if suddenly wrapped in a cold wet blanket.

WATERING.—During the spell of wet sunless weather we have just passed through, the watering of our plants has required much attention. The greatest mistake possible at this season, is that of affording too much water at the root. It not only does the plant much harm, but destroys the compost, and with it the roots. To my mind the greatest responsibility rests on those who are entrusted with the watering of valuable plants. Should there be any doubts as to a plant requiring water, pass it over until you are thoroughly convinced it requires it. Again. much damage may be caused by some plant receiving an insufficient supply of water, and the would-be successful Orchid grower must learn from experience. Intelligence bestowed on the watering of our plants, is the great secret of successful cultivation. There are always some inmates of the various houses that should have water all the year round, of course in moderate quantities during the dull winter months. In applying water always take care to saturate the compost. I am not a believer in dribbling water on the top, which often fails to reach the roots, especially if the compost has by any means got over-dry.

ODONTOGLOSSUMS.—Many of these will now be pushing up their flower spikes, which, as soon as they are long enough, should be neatly staked up. The plants should be examined from time to time for slugs, which devour spikes, and thereby spoil the whole season's work. In the Cool house many things are just starting into growth, and will soon be ready for repotting, but do not hurry them. The principal work in the Cool house will be in keeping the atmosphere in a sweet and healthy condition.

CYPRIPEDIUMS of the winter-flowering section will now be at their best, and perhaps no class of plants has been improved by the hand of the hybridist to the extent that this family has. For winter flowering they are indispensable. At this season they should have all the light possible, and as they pass out of bloom may be repotted, should they require it. These early potted plants make good seed beds for those seeds which ripen during next and the following month. The compost I recommend is as follows: Two parts best fibrous peat, one part polypodium fibre, and one part fibrous loam, with a liberal mixture of sphagnum moss. All the earthy particles should be taken from the peat and polypodium fibre. Keep those newly potted on the dry side until the roots are seen to be moving through the compost. The others must have water whenever they require it. Those that are throwing up their flower spikes must not be allowed to suffer for want of water, or the flowers will be small, and many will perhaps be malformed.

MILTONIAS will now be growing strongly, and may have water whenever they require it, taking care that the compost gets dry between each operation. Watch carefully for thrip, which is very partial to these plants, especially if grown too warm, and should it once get a foothold it is most difficult to eradicate. Fumigating at intervals as a preventative is what I would recommend, rather than having to eradicate this persistent pest afterwards. Miltonias at this season thrive best in a cool part of the Intermediate house, and with us are exposed to all the light possible.

INSECTS.—Speaking of insect pests, I think we may safely say that where a plant is constantly attacked by some pest we can rely upon it that we have not that plant in its natural conditions. It is either too hot, too cold, or too dry, or there is something wrong with the treatment.

DENDROBIUMS.—Plants of this genus that are resting in a Cool house must not be allowed to shrivel for want of water, neither should they have an excess, only just enough should be given to keep them plump and their leaves fresh and green. Those on which the flower buds are well advanced may now be placed in a slightly warmer house, but must on no account be hurried, or the whole crop of flowers may be lost and the plants rushed into premature growth. If plants are treated as advised, this family will follow the Cypripediums that are now in full flower, and sustain the interest until the early flowering Cattleyas are in bloom.

LÆLIA ANCEPS and its varieties are now in full bloom, and the plants should be kept moderately dry, but in no case should they be allowed to suffer, as I often think the miserable condition one sometimes finds these plants in, is due to their receiving too little water when in flower, and being allowed to shrivel, at the same time losing their roots.

CATTLEYAS that are growing, such as C. Warneri and others, may have water whenever they require it, and should be placed in the warmest and

lightest position in the house. Hybrid Cattleyas, Læliocattleyas, Brassocattleyas, and any of this family that are pushing new roots, may be repotted if they require it. In Cattleya culture I think the great mistake is made of allowing the plants to remain in the same receptacle too long, often after the compost is thoroughly decayed. The compost I recommend for this family is as follows: Two parts best peat fibre, one part AI fibre, one part polypodium fibre, one part osmunda fibre, and two parts clean, hand-picked sphagnum moss, all thoroughly mixed together. The plants should be potted firmly, and staked in such a manner that they do not rock about in the pot or pan in which they are grown.

CŒLOGYNE CRISTATA and its varieties are now pushing up their spikes at the cool end of the Intermediate house, and must not be allowed to suffer for want of water. C. pandurata, C. Massangeana, and other varieties must have water according to their condition; those commencing to grow may have it whenever the compost is dry, but for those at rest much less will suffice.

CALANTHES, as they pass out of flower, should be placed in a nice, warm, dry situation to rest, until they start to grow in the spring. Great care should be taken that the temperature does not fall too low, as these plants resent being rested in too low a temperature, especially if at all damp.

GENERAL REMARKS.—Should the open weather continue, a good supply of sphagnum moss should be acquired, so that when the busy season arrives no delay may be experienced for the want of it. Forethought at this season will save much time and worry at a later period. In nothing is it more true that a good start makes a successful ending than in Orchid growing, and I trust each one of our readers may reap success in every way during the coming year.

## SOCIETIES.

### ROYAL HORTICULTURAL.

AT the meeting held at the Royal Horticultural Hall, Westminster, on November 21st, there was an exceptionally fine display of Orchids, including ten medal groups, while several striking novelties were shown, and five First-class Certificates, four Awards of Merit, and three Cultural Commendations were given.

Orchid Committee present: J. Gurney Fowler, Esq. (in the Chair), Messrs. J. O'Brien (hon. sec.), Sir Jeremiah Colman, Bart., Harry J. Veitch, R. G. Thwaites, F. J. Hanbury, W. Thompson, F. M. Ogilvie, A. A. McBean, T. Armstrong, J. Charlesworth, J. Cypher, W. H. Hatcher, J. E. Shill, H. G. Alexander, A. Dye, W. H. White, Gurney Wilson, J. Wilson Potter, W. Bolton, W. Cobb, J. S. Moss, C. J. Lucas, and de Barri Crawshay.

The Duke of Marlborough, Blenheim Palace (gr. Mr. Hunter), was awarded a Gold Medal for a magnificent group, composed chiefly of finely-grown Vanda cœrulea, together with many fine plants of Cypripedium insigne Sanderæ, one bearing forty flowers, and other varieties of insigne, C. Baron Schröder, C. Lord Blandford, Cattleya labiata Blenheim var., and others.

H. F. Goodson, Esq., Fairlawn, Putney (gr. Mr. G. E. Day), staged a fine group, including many Cattleya labiata, Iris, and others, Læliocattleya Felicity, Goodson's var., L.-c. Ægina, Decia and Statteriana, Odontioda Seymourii, Odontoglossums, and many good Cypripedium insigne Sanderæ (Silver Flora Medal).

Sir Trevor Lawrence, Bart., K.C.V.O., Burford (gr. Mr. W. H. White), showed the handsome Zygopetalum Ballii, and three others (see Awards).

Captain J. Laycock, Wiseton Hall, Bawtry (gr. Mr. G. W. Musk), sent Læliocattleya Greenwoodii, Laycock's var., a very fine form.

Lady Audley Neeld, Grittleton, Chippenham, sent Cypripedium grittletonense (Stevensii × Curtisii), and C. Fascination (Fascinator × insigne Harefield Hall var.).

C. J. Phillips, Esq., Sevenoaks (gr. Mr. Bucknell), sent Brassocattleya Maroniæ Glebe var., a large and handsome form.

Francis Wellesley, Esq., Westfield, Woking (gr. Mr. W. Hopkins), sent Cattleya labiata The Queen, a beautiful white form, tinged with purple on the front of the lip (see also Awards).

Mrs. S. F. Whitlaw, Amerden, Taplow, Bucks, sent Cypripedium amerdense, a hybrid of unknown parentage.

Messrs. Charlesworth & Co., Haywards Heath, staged a fine group, containing many plants of Epidendrum vitellinum, a brilliant series of Cattleyas and Læliocattleyas, Miltonia Roezlii alba, M. Warscewiczii, Vanda Sanderiana and cœrulea, Odontioda Bohnhofiæ, Zygopetalum Murrayanum, Cypripedium Mariæ (aureum Surprise × insigne Sanderianum), Germaine Opoix, and many others (Silver Flora Medal).

Messrs. Cypher & Sons, Cheltenham, staged a fine group of Cypripediums, including many forms of C. insigne and C. Leeanum, with C. Thalia, C. Leeano-Swinburnei, and many other brilliant hybrids (Silver Flora Medal).

Messrs. Sander & Sons, St. Albans, staged an excellent group, including a batch of home-raised Cattleya Hardyana, and others, Læliocattleya Sapphirata (L.-c. Canhamiana × C. maxima), L.-c. Minnie (L.-c. exoniensis × C. Dowiana aurea), with many familiar kinds, a fine series of Cypripediums, including C. Arthurianum-Sanderæ, with yellow markings, C. Priscilla (exul × insigne Harefield Hall var.), Oncidium Lanceanum, the rare

O. Crœsus, Lycaste Balliæ, Ione paleaca, and other botanical species (Silver Flora Medal).

Messrs. W. B. Hartland & Son, Cork, staged an excellent group, containing several hybrids of Cattleya Bowringiana, and many fine Cypripediums, notably C. Rossetti, Chapmanii, triumphans, and some choice insigne varieties (Silver Banksian Medal).

Messrs. Hassall & Co., Southgate, staged an effective group, including many good Cattleyas and Cypripediums, with Angræcum infundibulare, Bulbophyllum sicyobulbon, and others (Silver Banksian Medal).

Mr. E. V. Low, Vale Bridge, Haywards Heath, staged a handsome group of Cypripediums, with Odontoglossum grande aureum, Cattleya Schofieldiana crossed with C. Myra Peeters, C. Hardyana, and others (Silver Banksian Medal).

Messrs. Stuart Low & Co., Bush Hill Park, staged a good group of Cattleyas and Cypripediums, with Ionopsis paniculata, Masdevallia calura, Epidendrum fragrans and cochleatum. Miltonia vexillaria Leopoldii M. Roezlii, Brassocattleya Maroniæ, Vanda cœrulea, and others (Silver Banksian Medal).

Messrs. J. & A. A. McBean, Cooksbridge, staged a fine group including Cattleya Fabia and others, some good Cypripediums, Odontoglossum Harryanum, some good O. crispum, a dark blue Vanda cœrulea, and a fine Brassocattleya, for which see Awards (Silver Banksian Medal).

Messrs. James Veitch & Sons, Chelsea, showed a group of the pretty white Calanthe Harrisii, with Cypripedium × James O'Brien (insigne Harefield Hall var. × Mons de Curte), most like the former (Bronze Banksian Medal).

Messrs. Edgar & Co., Woodford, Essex, exhibited a Cypripedium insigne with very dark spotting.

Messrs. Mansell & Hatcher, Rawdon, Yorks, showed a fine plant of Angræcum Kotschyi, growing on a section of trunk, and bearing two racemes.

M. Maurice Mertens, Ghent, showed Miltonia Hyeana, M. vexillaria Leopoldii, and a few other interesting things.

### FIRST-CLASS CERTIFICATES.

BRASSOCATTLEYA DIGBYANO-MOSSIÆ HOLFORD'S VAR. (B. Digbyana × C. Mossiæ Reineckiana).—A very large white form, having a broad, well-expanded lip, with a greenish primrose disc, and some rosy markings at the base. Exhibited by Lt.-Col. Sir George L. Holford, K.C.V.O., Westonbirt (gr. Mr. H. G. Alexander).

CYPRIPEDIUM CHAPMANII WESTONBIRT VAR. (bellatulum × Curtisii).—A remarkably fine form, having the flower tinged and heavily spotted with puple on a cream white ground. Exhibited by Lt.-Col. Sir G. L. Holford.

LÆLIOCATTLEYA PRINCE OF ORANGE (L.-c. Hippolyta × C. Dowiana aurea).—An extremely handsome hybrid, with bright chrome yellow sepals and petals, and a deep ruby-crimson lip. Exhibited by Sir G. L Holford, K.C.V.O.

ODONTOGLOSSUM CHIONE (parentage unrecorded).—A magnificent flower, having bright purple sepals and petals, with some white markings at the base and apex, and a white lip spotted with purple at the base. Exhibited by W. R. Lee, Esq., Plumpton Hall, Manchester (gr. Mr. Woodhouse).

ODONTOGLOSSUM THAIS (parentage unrecorded).—A very handsome crispum-like hybrid, having the sepals and petals heavily blotched with purple and margined with white, while the apex of the broad lip is of the latter colour. Exhibited by W. R. Lee, Esq.

### AWARDS OF MERIT.

BRASSOCATTLEYA LEUCOTHOE (B. nodosa × C. Schrœderæ).—A rather dwarf hybrid, having well-shaped, nearly pure white flowers. Exhibited by Messrs. J. & A. A. McBean.

CYPRIPEDIUM ELATIOR, SHRUBBERY VAR. (Leeanum × Baron Schröder).—A very pretty hybrid, having the dorsal sepal white, heavily spotted with purple, and the petals and lip greenish marked with brown. Exhibited by F. M. Ogilvie, Esq., The Shrubbery, Oxford (gr. Mr. W. Balmforth).

LÆLIOCATTLEYA DENGANII (L.-c. Cappei × C. Dowiana), a beautiful hybrid, having the sepals and petals yellow, tinged with coppery red, and the lip glowing ruby crimson. Exhibited by Francis Wellesley, Esq.

LÆLIOCATTLEYA W. J. BIGGS (parentage unknown).—A handsome hybrid, having bronzy yellow sepals and petals, and a claret-coloured, crimped lip. Exhibited by W. J. Biggs, Esq., Browning Road, Enfield.

### CULTURAL COMMENDATIONS.

MAXILLARIA PHŒNICANTHERA, M. PICTA, and TRICHOPILIA SUAVIS.—Three very finely-grown and profusely flowered specimens. To Mr. W. H. White, Orchid grower to Sir Trevor Lawrence, Bart.

---

At the meeting held on December 5th there was a very fine display of Orchids, including no fewer than eleven medal groups, the other awards consisting of one First-class Certificate and two Awards of Merit.

Orchid Committee present: J. Gurney Fowler, Esq. (in the Chair), and Messrs. J. O'Brien (hon. sec.), Sir Jeremiah Colman, Bart., Harry J. Veitch, F. J. Hanbury, R. G. Thwaites, W. Waters Butler, T. Armstrong, C. H. Curtis, W. Cobb, J. Charlesworth, J. Cypher, J. E. Shill, W. H. Hatcher, H. G. Alexander, W. P. Bound, A. Dye, W. H. White, J. Wilson Potter, W. Bolton, Gurney Wilson, J. S. Moss, and R. Brooman White.

J. Gurney Fowler, Esq., Glebelands, S. Woodford (gr. Mr. J. Davis), staged a choice group, including the beautiful Odontoglossum Smithii,

Cypripedium Ville de Paris, Tityus superbum, Fowlerianum, triumphans, bingleyense, and some well-grown examples of C. Leeanum J. Gurney Fowler (Silver Flora Medal).

F. Bostock, Esq., Springfield, Northampton, sent two good forms of Cypripedium Actæus.

Sir Jeremiah Colman, Bart., V.M.H., Gatton Park (gr. Mr. J. Collier), sent Cypripedium insigne Gatton Park var., a fine form of the giganteum type.

Mrs. Norman Cookson, Oakwood, Wylam-on-Tyne (gr. Mr. H. J. Chapman), sent Odontoglossum crispum Chapmaniæ, a handsomely blotched seedling form, Calanthe Chapmanii rosea, and Cypripedium Leeanum Gratrixiæ.

E. H. Davidson, Esq., Twyford (gr. Mr. Cooper), showed Cattleya armainvillierensis alba.

Lt.-Col. Sir G. L. Holford, Westonbirt (gr. Mr. H. G. Alexander), sent Cypripedium Nydia (Niobe Westonbirt var. × Charlesianum), a very fine thing, having a rose-coloured dorsal sepal margined with white (see Awards).

Francis Wellesley, Esq., Westfield, Woking (gr. Mr. W. Hopkins), sent Brassocattleya Hyeæ Westonbirt var., Cattleya St. George, a beautifully coloured flower, Læliocattleya epicasta var. The Premier, a fine form, with blush white sepals and petals, and Cypripedium Mrs. Francis Wellesley.

Messrs. Charlesworth & Co., Haywards Heath, staged a fine group, including Cattleyas, Læliocattleyas, and Cypripediums, with some good Vanda cœrulea and Amesiana, Odontoglossum Goodsonii, Odontioda Cassiope, Calanthe Veitchii alba, Cymbidium tigrinum, Sophrocatlælia Pandora, and two others, which secured Awards (Silver Flora Medal).

Messrs. Armstrong & Brown, Tunbridge Wells, staged a fine group, including Cypripedium Bassano × Fairrieanum, a richly-coloured hybrid, with many popular kinds, Cattleya Trianæ × Aclandiæ, C. guttata × Dowiana and C. Maronii × Dowiana, with Indian yellow sepals and petals, and some rosy veining on the lip, a fine blood red Odontioda from C. Nœtzliana and O. Rolfeæ, &c. (Silver Flora Medal).

Messrs. James Cypher & Sons, Cheltenham, staged a very fine group of Cypripedium insigne varieties, with many good C. Leeanum, C. Priam magnificum, and other hybrids, some fine Dendrobium Phalænopsis, Cattleyas, and others (Silver Flora Medal).

Messrs. J. & A. A. McBean, Cooksbridge, staged a brilliant group, including some good Odontoglossums, Cypripediums, Læliocattleyas and Cattleyas, the forms of C. Fabia and C. Luegæ being very fine; also Sophrocattlælia Marathon var. Helen, a handsome copper-red flower, having a ruby crimson lip, veined with yellow in the throat (Silver Flora Medal).

Messrs. Sander & Sons, St. Albans, staged a fine group, containing many excellent hybrid Cypripediums, and among them C. Niobe superbum, C.

fulshawense, C. Troilus, Sander's var., the fine C. Leeanum Gratrixiæ, and a number of fine Cattleyas and Læliocattleyas (Silver Flora Medal).

Messrs. James Veitch & Sons, Chelsea, staged a select group, including some good Cypripedium insigne, Leeanum, Niobe, and Thalia, Læliocattleyas, &c., also Odontoglossum Aurora (Rossii rubescens × Lambeauianum), a very handsome thing, having lilac sepals and petals, blotched with claret-purple, and a rose-purple lip, with bright yellow crest (Silver Flora Medal).

Messrs. W. B. Hartland & Sons, Cork, sent a good group of Cypripedium insigne Sanderæ, C.i. Harefield Hall var., and others, with a few Læliocattleyas and Odontoglossum crispum (Silver Banksian Medal).

Messrs. Stuart Low & Co., Bush Hill Park, staged a bright group, including Houlletia Brocklehurstiana, Dendrobium Phalænopsis, Cycnoches chlorochilon, Cymbidium Tracyanum, Vanda cœrulea, and numerous Cattleyas, with a number of fine Oncidium varicosum at the back (Silver Banksian Medal).

Mr. E. V. Low, Vale Bridge, Haywards Heath, staged a few good Cypripediums, including C. Baron Schröder with nine flowers, C. Minos Youngii, Gaston Bultel, triumphans, Tityus, Leeanum, &c. (Bronze Banksian Medal).

Messrs. Mansell & Hatcher, Rawdon, Yorks, sent Cypripedium Thalia Mrs. Francis Wellesley, C. Leeanum giganteum with five flowers, and some good C. Actæus, with spikes of a fine pure white Dendrobium Phalænopsis, and of Calanthe vestita rubro-oculata gigantea (Bronze Banksian Medal).

Messrs. Hassall & Co., Southgate, sent Cattleya St. Gilles, two good forms of C. Aliciæ, Læliocattleya Rubens, and others.

Miss Walters Anson, The Studio, Broadway, Streatham, sent a fine display of coloured drawings of Orchids of high artistic merit.

### FIRST-CLASS CERTIFICATE.

SOPHROCATTLEYA LOTTIE MÜLLER (C. Peetersii × S.-c. Nydia).—A very large and brilliantly-coloured hybrid, having broad bright rose sepals and petals, becoming paler at the base, and a ruby-crimson velvety lip, with some yellow veining in the throat. Exhibited by Messrs. Charlesworth & Co.

### AWARDS OF MERIT.

CYPRIPEDIUM DRACO, WESTONBIRT VAR. (insigne Harefield Hall var. × Euryades).—A large and handsome flower, most like the former parent in general character, and having a very broad white dorsal sepal, with a greenish yellow base, spotted with purple, and the petals and lip yellow, tinged and veined with purple-brown. Exhibited by Lt.-Col. Sir George L. Holford, K.C.V.O.

TRICHOPILIA GOULDII (suavis × fragrans).—A distinct and pretty hybrid, having fragrant flowers, most like those of the former parent, with the sepals and petals silvery white, spotted with rose in the middle, and the lip white spotted with rose. Exhibited by Messrs. Charlesworth & Co.

---

### MANCHESTER AND NORTH OF ENGLAND ORCHID.

At the meeting held on November 16th, the members of Committee present were:—Rev. J. Crombleholme (in the chair), R. Ashworth, J. Bamber, W. R. Lee, C. Parker, H. Thorp, Z. A. Ward, J. C. Cowan, J. Cypher, J. Evans, W. Holmes, A. J. Keeling, and H. Arthur (Secretary).

W. R. Lee, Esq., Heywood (gr. Mr. Woodhouse), exhibited a group of plants to which a Silver-gilt Medal was awarded, containing very choice forms of Odontoglossums, Cattleyas and Cypripediums. Special mention must be made of Odontoglossums Chione, Antiope, and Hermione. The Cattleyas included Portia var. Imperator, Myrrha Lee's var., Iris var. Corisanda, labiatas in variety, and C. Dowiana aurea, with Læliocattleya Clive, Plumpton Hall var., Cypripediums and Dendrobium Phalænopsis.

Z. A. Ward, Esq., Northenden (gr. Mr. Weatherby), also exhibited a splendid group, and was awarded a Silver-gilt Medal, an especial feature being the numerous varieties of Cypripedium insigne. The Leeanum varieties were well represented, with good forms of Actæus Cringlewood var., Thalia var. Mrs. F. Wellesley, Corneyanum Ward's var., triumphans Ward's var., Priam and aureum. Cattleyas included C. labiata and Iris, and there were plants of Oncidium tigrinum and Lycaste Skinneri alba.

O. O. Wrigley, Esq., Bury (gr. Mr. Rogers), again staged a magnificent exhibit of over 250 plants, the Cypripedium insigne varieties being too numerous to particularise, and comprising all the yellow varieties known in cultivation, and were really splendid. In the Leeanum section were fine examples of Clinkaberryanum, magnificum, giganteum, Winnianum and others, with miscellaneous subjects. A Special Vote of Thanks was accorded.

J. McCartney, Esq., Bolton (gr. Mr. Holmes), was awarded a Silver Medal for a nice group, including Cattleyas labiata Mrs. J. McCartney, Luegæ, Mrs. J. W. Whiteley, Bowringiana McCartney's var., Læliocattleyas bletchleyensis, Decia, Lady Rothschild, luminosa and J. McCartney, Cypripediums Shillianum, nitens and others, with plants of Oncidium flexuosum and varicosum Rogersii.

Rev. J. Crombleholme, Clayton-le-Moors (gr. Mr. Marshall), staged a very pretty group of Cypripediums, including some well-grown C. insigne Harefield Hall var., Sanderæ and Balliæ, Actæus magnificum, aureum and revolutum, Mancunium, Leeanum giganteum, Minos, Walton Grange var., eboriacum, Arthurianum and Adrastus Marie (Silver Medal).

Col. J. Rutherford, M.P., Blackburn (gr. Mr. Lupton), was awarded a

Bronze Medal for a group of Cypripediums, including C. insigne Sanderæ and citrinum, triumphans, Niobe superbum, villosum, Cecilia, Leeanum Prospero, Maudiæ and others.

G. H. Peace, Esq., Monton Grange (gr. Mr. C. Mace), was also awarded a Bronze Medal for a group of Cypripediums, the insigne section being well represented by plants of Sanderæ, Laura Kimball, Dorothy, Berryanum, Chantinii Lindenii, tunbridgense and Lancastrian. There were also C. Leeanum Staffordianum and magnificum, C. Memnon, Monton Grange var., and C. Euryades aureum.

J. J. Holden, Esq., Southport (gr. Mr. Johnson), staged a wonderful plant of Odontoglossum ardentissimum var. Johnsonii, carrying two spikes of flowers, each 3½-inches across, Cattleya Aurora-Borealis, and three white forms, C. labiata alba Holden's var., C. Princess Mary (Warneri alba × Dowiana alba) and C. Holdeniæ (Schrœderæ alba × Warneri alba).

R. le Doux, Esq., West Derby (gr. Mr. Fletcher), staged Cypripedium Pearl Beauty (Milo × nitens Charlesworthii).

R. L. Overton, Esq., Neston, Cheshire (gr. Mr. Arrowsmith), had a wonderful Cypripedium Overtonii (fulshawense × Leeanum Corona).

Messrs. J. Cypher & Sons, Cheltenham, were awarded a Silver Medal for a group, principally Cypripediums, varieties of insigne, Leeanum, and others.

Messrs. Stuart Low & Co., Bush Hill Park, staged a miscellaneous group, to which a Silver Medal was awarded, Cattleyas and Cypripediums being well represented, with Oncidiums oblongatum, trulliferum, varicosum Rogersii, the rare varicosum concolor, Vanda cœrulea and Cattleya Fabia gigantea.

Messrs. Hassall & Co., Southgate, were awarded a Silver Medal for a meritorious group of Cattleya labiata varieties, and hybrids of the Iris section, with a few choice Cypripediums.

Mr. John Robson, Altrincham, staged a few yellow varieties of Cypripedium insigne, and C. Leeanum Clinkaberryanum × Memnon giganteum.

Mr. W. Shackleton, Great Horton, Bradford. staged Cypripedium Niobe superbum, C. Memnon var. Queen Alexandra, and an unnamed seedling.

Mr. H. Arthur, Blackburn, staged Oncidium Forbesii, var. nigrum, a very dark form, Cymbidium erythrostylum and Cypripedium Baron Schröder.

## FIRST-CLASS CERTIFICATES.

Cattleya Fabia var. Imperator, from W. R. Lee, Esq., a fine distinct flower with aurea lines in the lip; Cattleya labiata var. Virgo purissima, a large white flower with pale yellow markings in the throat; Odontoglossum Chione, a wonderful flower, having solid chocolate-coloured segments, tipped with white, and the lip broad and flat; all from the same exhibitor.

Odontoglossum ardentissimum, var. Johnsonii, from J. J. Holden, Esq., carrying two spikes of magnificent flowers, each 3½-inches across.

Cypripedium Overtonii (fulshawense × Leeanum Corona), from R. L. Overton, Esq., a large well-balanced flower.

AWARDS OF MERIT.

Cattleya Portia var. Imperator, a large round flower, 4 inches across, of good even colour; Læliocattleya Clive, Plumpton Hall var., a massive flower; Cattleya labiata Genevieve, a white flower with faint markings on the lip; Cattleya Iris var. Corisanda (bicolor Grossii × Dowiana), a very fine variety; Cattleya Myrrha, Lee's var., a very large flower; Odontoglossum Antiope, an unusual colour in the markings; O. Hermione, very distinct, and of good form; Cypripedium Arthurianum var. Sanderæ, (Arthurianum × insigne Sanderæ), showing the parentage on both sides; C. Charlesianum var. Prometheus, very fine; all from W. R. Lee, Esq.

Cypripedium Pearl Beauty (Milo × nitens-Charlesworthii), a well-balanced flower of good colour, from R. le Doux, Esq.

Cattleya labiata alba, Holden's var., a distinct but rather small flower; Cattleya Holdeniæ (Schrœdera alba × Warneri alba), a nice flower, having the lip tipped with pink, and yellow in the throat; C. Princess Mary (Warneri alba × Dowiana alba), a good variety, showing the Dowiana markings in the lip, but rather light in colour; all from J. J. Holden, Esq.

Cypripedium Mancunium (Harrisianum superbum × Leeanum), from Rev. J. Crombleholme, a very good form.

Cypripedium Actæus, Cringlewood var., from Z. A. Ward, Esq., a very noble flower of good form.

Cattleya Fabia gigantea, from Messrs. Stuart Low & Co., of magnificent shape and good even colour.

Cattleya labiata, from Hassall & Co., a seedling of good form and colour.

———

At the meeting held on November 30th, 1911, the members of Committee present were:—Rev. J. Crombleholme (in the chair), R. Ashworth, W. R. Lee, C. Parker, H. Thorp, A. Warburton, Z. A. Ward, J. Cypher, J. Evans, W. Holmes, A. J. Keeling, D. McLeod, and H. Arthur (Secretary).

W. R. Lee, Esq., Heywood (gr. Mr. Woodhouse), was awarded a Silver-gilt Medal for a miscellaneous group, amongst which were noticed some well-grown plants of Cypripediums insigne Sanderæ, i. Harefield Hall var., i. Bonhofianum, triumphans, and Mrs. Francis Wellesley, with other fine things mentioned under awards.

R. Ashworth, Esq., Newchurch (gr. Mr. Gilden), was also awarded a Silver-gilt Medal for an effective display, including Cattleya labiata alba Amesiæ, and several other albinos: a fine plant of C. Portia (for which a Cultural Commendation and Bronze Medal were awarded to the gardener), Cypripediums Thalia Mrs. F. Wellesley, Maudiæ, Baron Schröder, Farrieanum, Vera, Corneyanum, Miltonia Unica and Oncidium Forbesii.

Z. A. Ward, Esq., Northenden (gr. Mr. Weatherby), staged a nice group, to which a Silver Medal was awarded, including Cattleya Portia, Ward's var., Læliocattleya luminosa aurifera, Cypripedium Euryades var. Jasper; a magnificent plant of Odontoglossum Charlesworthii, Ward's var., carrying a branched spike 6ft. long, Lycaste Skinneri alba, and Oncidium tigrinum.

Col. J. Rutherford, M.P., Blackburn (gr. Mr. Lupton), was awarded a Silver Medal for a fine group, including Odontoglossums in variety, noticeable among them being a fine plant of O. ardentissimum xanthotes, O. eximium Rutherfordianum, Cattleya labiata and hybrids, Cypripediums Chorltonii, insigne Sanderæ, and citrinum, Leeanum in variety, Sophrocattleya Doris, several plants of Oncidium tigrinum, and a batch of Epidendrum vitellinum majus. (See Awards).

Rev. J. Crombleholme, Clayton-le-Moors (gr. Mr. Marshall), staged a group of Cypripediums, varieties of insigne and Leeanum, Harrisianum superbum, bingleyense, Sallieri, Earl of Tankerville, Niobe, Milo, nitens, and Eismannianum, a Bronze Medal being awarded.

A. Warburton, Esq., Haslingden (gr. Mr. Dalgleish), was also awarded a Bronze Medal for a group of Cypripediums, the insigne section being represented by fine examples of Harefield Hall var., King Edward VII., Clara Measures, Berryanum and Bonhofianum, with C. Leeanum Clinkaberryanum, C. Thalia giganteum and Mrs. F. Wellesley, and C. Floradora.

J. McCartney, Esq., Bolton (gr. Mr. Holmes), was awarded a Bronze Medal for a mixed group of Cattleyas and Læliocattleyas, Cypripediums insigne Harefield Hall var., i. Sanderæ, tixallense, Arthurianum, Milo, Youngiæ, and several plants of Oncidium varicosum Rogersii.

G. H. Peace, Esq., Monton Grange (gr. Mr. Mace), staged a nice group of Cypripediums, to which a Bronze Medal was awarded, including C. insigne Sanderæ, Harefield Hall, Sanderianum, Schofieldianum, and Queen Alexandra, C. Leeanum giganteum, Staffordianum, Corona and Mrs. Ardern's var., C. Ville de Paris, C. Kitty, and Cymbidium erythrostylum.

Wm. Thompson, Esq., Walton Grange (gr. Mr. Stevens), was awarded a Bronze Medal for a small but interesting group, including Cypripediums Harri-Leeanum, Golden Gem, Queen Alexandra, and a number of the sweet-scented Oncidium cheirophorum (see Awards).

J. J. Holden, Esq., Southport (gr. Mr. Johnson), staged some very fine albinos, Cattleya labiata alba and Queen Maud, with others mentioned under Awards.

R. le Doux, Esq., West Derby (gr. Mr. Fletcher), staged Cypripedium Queen Alexandra, and C. Actæus Drewett's var. (See Awards).

H. Thorp, Esq., Middleton, staged Cypripediums insigne Sanderæ, E. Shill, and Mrs. F. Wellesley.

(*To be continued.*)

## ORCHIDS IN SEASON.

Two pretty seedling Cattleyas are sent from the collection of M. J. Ginot, St. Etienne, France. C. Marstersoniæ alba (Harrisoniana × labiata) is a pretty white variety. C. Anneliæ (Parthenia × chocoensis alba) is fairly intermediate between the parents, and has white flowers, with the disc of the lip yellow, and some pink veining in front. Both are seedlings flowering for the first time, and should develop into good things.

Flowers of Cypripedium Actæus and its variety Olive are sent from the collectfon of Sir Benjamin Scott, Linden House, Stanwix, Carlisle. The former is the well-known greenish type, but the latter has the lower half of the dorsal sepal well spotted with purple, forming a very striking contrast and rendering the flower very attractive.

Cypripedium Alcibiades quadricolor (Leeanum giganteum × Mons. de Curte) is a very fine seedling from the collection of O. O. Wrigley, Esq., Bridge Hall, Bury. The dorsal sepal is very broadly margined with white, and the centre light brown, with a darker, median band. Vanda cœrulea albidula is a pretty white variety, with some blue veining on the lip.

A flower of Læliocattleya Ethelæ (L.-c. corbeillensis × C. bicolor) is sent from the collection of E. F. Clark, Esq., Evershott, Dorchester. It has rosy sepals and petals, and the lip has rather small rounded side lobes, and a dark purple front lobe.

## ORCHID NOTES AND NEWS.

Two meetings of the Royal Horticultural Society will be held at the Royal Horticultural Hall, Vincent Square, Westminster, during January, 1912, on the 9th and 23rd, when the Orchid Committee will meet at the usual hour, 12 o'clock noon.

Meetings of the Manchester and North of England Orchid Society will be held at the Coal Exchange, Manchester, on January 11th and 25th, 1912 The Committee meets at noon, and the exhibits are open to the inspection from 1 to 4 p.m. The following meeting will be held on February 8th.

AUTUMN ORCHID SHOW.—The Council of the R.H.S. has appointed a Sub-Committee, consisting of Mr. Gurney Fowler (Chairman), Mr. J. O'Brien (hon. sec.), Lt.-Col. Sir George Holford, K.C.V.O., Mr. Gurney Wilson, and Mr. John Cypher, to consider the arrangements for the Orchid Show to be held on November 5th and 6th, 1912. It met on Tuesday, November 21st, 1911, and considered some of the chief points necessary to ensure a good and effective display, and more especially to secure the co-operation of Orchidists in the provinces. Suggestions for the most important classes were made.

GHENT QUINQUENNIAL.—We have received the provisional programme and schedule of the 17th International Horticultural Exhibition to be held at Ghent at the end of April, 1913, under the patronage of His Majesty the King of the Belgians. Classes 22 to 106 are devoted to Orchids, and should produce a very fine display.

## ORCHID PORTRAITS.

CALANTHE ANGELA.—*Journ. Hort.*, 1911, ii. p. 535, with fig.
CALANTHE CHAPMANII.—*Journ. Hort.*, 1911, ii. p. 535, with fig.
CALANTHE CLIVE.—*Journ. Hort.*, 1911, ii. p. 535, with fig.
CALANTHE VEITCHII.—*Journ. Hort.*, 1911, ii. p. 535, with fig.
CŒLOGYNE CRISTATA.—*Journ. Hort.*, 1911, ii. p. 533, with fig.
CŒLOGYNE DAYANA.—*Journ. Hort.*, 1911, ii, p. 532, with fig.
CYMBIDIUM LOWIANUM.—*Journ. Hort.*, 1911, ii. p. 533, with fig.
CYPRIPEDIUM CHAPMANII WESTONBIRT VAR.—*Gard. Chron.*, 1911, ii. p. 431, fig. 174.
CYPRIPEDIUM DRACO.—*Gard. Mag.*, 1911, pp. 913, 923, with fig.
CYPRIPEDIUM LAWRENCEANUM.—*Journ. Hort.*, 1911, ii. p. 545, with fig.
CYPRIPEDIUM LORD WOLMER WESTONBIRT VAR.—*Gard. Mag.*, 1911, pp. 963, 974, with fig.
DENDROBIUM AINSWORTHII.—*Journ. Hort.*, 1911, ii. p. 577, with fig.
DENDROBIUM NOBILE NOBILIUS.—*Journ. Hort.*, 1911, ii. p. 533, with fig.
LÆLIOCATTLEYA NELLA.—*Gard. Chron.*, 1911, ii. pp. 474, 475, fig. 190; *Gard. Mag.*, 1911, pp. 963, 973, with fig.
LYCASTE SKINNERI.—*Journ. Hort.*, 1911, ii. p. 533 with fig.
MILTONIA VEXILLARIA.—*Journ. Hort.*, 1911, ii. p. 533, with fig.
ODONTOGLOSSUM CHIONE.—*Gard. Chron.*, 1911, ii. p. 411, fig. 167.
VANDA SANDERIANA.—*Journ. Hort.*, 1911, ii. pp. 504, 505, with fig.

## ANSWERS TO CORRESPONDENTS.

[*Orchids are named and questions answered here as far as possible. Correspondents are requested to give the native country or parentage of plants sent. An* ADDRESSED *postcard must be sent if a reply by post is desired* (*abroad, reply postcards should be used*). *Subjects of special interest will be dealt with in the body of the work.*]

We hope that our readers will appreciate the improved appearance of the *Orchid Review* in the present issue, which has been effected by the selection of an art paper of much superior quality, so as to secure an enhanced effect in the illustrations. An art paper was used last year, but not of quite the substance desired, for a difficulty was then experienced in obtaining one of the necessary quality without increasing the weight. This difficulty has now been surmounted.

We regret that reports of some recent meetings are unavoidably held over. The autumn Shows have been so extensive that it has been impossible to include all the reports that have reached us, even after being severely condensed.

Photographs received, with thanks. H.G.A., A.H., R.V.S.

E.F.C., R.B.,—Notes are unavoidably postponed through pressure on our space.

G.H.H.—Many thanks for the suggestions, some of which we hope to act upon shortly.

J.F.S.—Communication received with thanks. We hope to use it next month.

VOL XX., No. 230. THE FEBRUARY, 1912.

# THE ORCHID REVIEW

Edited by R. ALLEN ROLFE, A.L.S.

Contents.


| | PAGE |
|---|---|
| Amateur's Collection ... ... ... | 38 |
| Answers to Correspondents ... ... | 64 |
| Calendar of Operations for February ... | 50 |
| Cattleya Warscewiczii, Culture of ... ... | 35 |
| Cypripedium San-Actæus, Westfield var. | 48 |
| Fertilisation and Secondary hybrids ... | 36 |
| Lælia Gouldiana ... ... ... ... | 47 |
| Odontoglossum Delhi ... ... ... | 44 |
| Oncidium Kramerianum ... ... ... | 49 |
| Orchid Notes and News ... ... ... | 63 |
| Orchid Portraits ... ... ... ... | 64 |
| Orchids : a delightful hobby ... ... | 43 |
| Orchids in season ... ... ... ... | 62 |
| Orchids of Panama ... ... ... ... | 46 |
| Our Note Book ... ... ... ... | 33 |
| Societies— | 53 |
| Manchester and North of England Orchid ... ... ... ... ... | 58 |
| Royal Horticultural ... ... ... | 53 |
| Species and hybrids ... ... ... ... | 47 |
| Vanda Charlesworthii ... ... ... | 45 |
| Veitch, Mr. Harry J., F.L.S., V.M.H. ... | 41 |
| Xylobium, the genus ... ... ... | 43 |
| Zygopetalum Mackayi, Hybridisation of ... | 40 |


ILLUSTRATIONS.


| | |
|---|---|
| Cypripedium San-Actæus, Westfield var. | 48 |
| Odontoglossum Delhi ... ... ... | 44 |
| Oncidium Kramerianum ... ... ... | 49 |
| Veitch, Mr. Harry J., F.L.S., V.M.H. ... | 41 |


PRICE SIXPENCE MONTHLY. POST FREE 7/- PER ANNUM—SEE OVERLEAF.


# SANDER & SONS.

We receive fortnightly fresh consignments of the best

**OSMUNDA REGALIS FIBRE**

from our own freehold lands, situated in the best Osmunda producing territory of the United States of America. Price per bushel, **2/6**; per bag, **8/6.**

ROYAL WARRANT HOLDERS TO THE KING.

# Bull's Fumigating Compound.

No, 1 Bottle, **20s.**; ½ Gallon, **63s.**

THE MOST EFFICIENT AND ECONOMICAL.

ONCE TRIED BY AN ORCHID GROWER IS ALWAYS USED.

Sole Manufacturers :

## William Bull & Sons,

KING'S ROAD, CHELSEA, LONDON.

# NOTICES

The ORCHID REVIEW is published regularly at the beginning of each month price 6d. net. Annual Subscription, post free, 7/-, payable in advance.

Volumes I. to XIX. can be supplied unbound at 6/-, or bound in cloth, 7/6, postage extra.—Cost of postage: book post, 9d. per volume; parcel post within the United Kingdom only, 5d. per single volume (series by weight).

Also cases for binding either volume at 1/6 each, post free throughout the postal union.

The ORCHID STUD-BOOK. By R. A. Rolfe and C. C. Hurst. By Parcel Post, 7/11. Abroad, by Book Post, 8/3.

All Subscriptions, Advertisements, Communications and Books for review, should be addressed:—The **Editor of the Orchid Review**, Lawn Crescent, Kew.

Cheques and Postal Orders (sent as above) should be made payable to FRANK LESLIE & Co., and, to ensure safety in transit, should be crossed "& Co."

---

*Agents for copies supplied through the Trade—*

**MARSHALL BROTHERS, Ltd.**, KESWICK HOUSE, PATERNOSTER ROW, LONDON, E.C.

---

## SCALE OF CHARGES FOR ADVERTISEMENTS.

| | £ | s. | d. |
|---|---|---|---|
| Five lines and under in column ... | 0 | 2 | 6 |
| Per line after ... ... ... ... | 0 | 0 | 6 |
| One-eighth column... ... ... ... | 0 | 4 | 0 |
| Quarter column or eighth page ... | 0 | 7 | 0 |

| | £ | s. | d. |
|---|---|---|---|
| Half column or quarter page ... | 0 | 12 | 0 |
| One column or half page ... ... | 1 | 2 | 6 |
| Whole page ... ... ... ... ... | 2 | 0 | 0 |

---

The Editor invites communications on interesting subjects (which should be written on one side of the paper only), also portraits, &c., of rarities.

Advertisements and late news should be received not later than the 24th of the month.

---


# CHARLESWORTH & Co.,

ORCHID RAISERS, GROWERS,
IMPORTERS AND EXPORTERS,

# HAYWARDS HEATH,

**SUSSEX,**

Invite their Patrons and Friends to pay them a visit of inspection at their New Establishment,
——————where may be seen the——————

## Finest Trade Collection of Orchids In Europe.

A Conveyance will be at the Railway Station to meet Visitors, upon notification being kindly given.

CONTINENTAL BRANCH—RUE GERARD, BRUSSELS.

Catalogue Post Free.

Telegrams:—Charlesworths, Haywards Heath.

Please Address—CHARLESWORTH & Co., Haywards Heath, Sussex.

# THE ORCHID REVIEW.

VOL. XX.] *FEBRUARY*, 1912. [No. 230.

## OUR NOTE BOOK.

ANOTHER step towards the production of the much desired "scarlet crispum" has been taken, Messrs. Charlesworth & Co. having exhibited on January 9th a secondary hybrid from Odontioda Bradshawiæ × Odontoglossum crispum, under the name of Odontioda Schroederi. The result of this cross shows a considerable increase in size, while much of the red colour of the former parent has been retained, a matter which has been considered rather problematical. It should develop into a good thing when the seedling becomes strong. No one expected to get a plant with the size and shape of the Odontoglossum and the colour of the Cochlioda in the first or even in the second generation, but it is probably only a question of time, for hybridisation and selection are already working wonders.

---

At the following meeting flowers of a very curious hybrid were exhibited from the collection of Sir William Marriott, the parents being Lælia anceps Sanderiana and Cattleya Aclandiæ. The flower was most like the Lælia parent in shape, but larger and pale pink in colour. The two parents are very distinct in general character, and it will be interesting to see what the hybrid is like when fully developed.

---

We have lately been much exercised about the problem of variation among secondary hybrids, but the report of a recent lecture reminds us of another phase of the question. Variation, we are told, can no longer be regarded as an indefinite phenomenon. We must dismiss from our minds all preconceptions as to how evolution has proceeded, and as to the part played by utility of structure, and study the properties of animals and plants exactly as we should those of inorganic structures. The doctrine that the degree of fixity of a specific character is a measure of its utility to the organism can no longer be held. The theory of natural selection is said to fail exactly at the point where it is most wanted to help us, namely, the meaning of specific differences. All this it seems has been discovered through the study of variation and heredity by means of Mendelian analysis.

We dissent from the conclusion arrived at, but we have always maintained that Mendelism was nothing but a method of work. Formerly we used to read of the Mendelian Law of Dominance, Law of Gametic Purity, &c., and it was said that the great problem of the future was not so much the origin of species as the origin of unit characters. Then came the announcement that all that Mendel discovered was the Law of Segregation —which is simply the familiar dissociation of mixed specific characters in hybrids under another name. Mendelism seems to be on a sort of inclined plane, and when it has reached the bottom of the slope it will probably show us some of the steps by which species have arisen through progressive development under the operation of natural selection, or the survival of the fittest.

---

From the doctrine that the degree of fixity of a character—we will omit the word specific—is *not* a measure of its utility to the organism we completely dissent. Nothing succeeds like success, and in the keen struggle for existence useful variations are those most likely to be preserved, and handed on to succeeding generations. In fact a character originally arising as a mere variation may in turn become a specific character, ultimately attaining generic and even ordinal significance. It is the history of evolution.

---

If we must give an example in proof of the assertion, let us take the rostellum of an Orchid. As Darwin well pointed out, no such organ exists in other plants. It performs the double function of secreting a viscid substance which glues the pollinia to the visiting insect, and of preventing the pollinia from falling on to the stigma of the same flower. But it is only a modified stigma which has lost its original function, and the viscid matter, which dries almost instantly on exposure to the air, is only a modification of the viscid matter of the stigma, which remains moist for a long period. It is confined to the suborder Monandræ, and may be said to have arisen as an adaptation with the development of that group. In the highly specialised Vandeæ a further modification has taken place, by which a portion of the rostellum is cut off to form the stipes of the pollinarium, the process being effected by the formation of a zone of hyaline tissue, analagous to that by which a leaf is disarticulated and thrown off in autumn.

---

And the rostellum has progressed to a marvellous degree of diversity in the different groups. At first a merely secretive organ, it has become a pouch-like body, enclosing the glands of the pollinia in Orchis; a double pouch in Ophrys; a profoundly three-lobed body in Habenaria, in which

the side lobes are much prolonged and form channels to carry the slender caudicles of the pollinia; a large disc with two cartilaginous arms in Disperis; while in the male flower of Catasetum it has developed two sensitive antennæ, to announce the arrival of an instinct, and cause the expulsion of the pollinia at the right moment—a female organ assumiug a special function in a male flower. Could specialisation much further go?

---

The rostellum is a good example of a successful, because useful, adaptation, but it is only one of a series. Take away the adaptations from an epiphytic Orchid, and there is nothing left. And species are adaptation.

## CULTURE OF CATTLEYA WARSCEWICZII.

REFERRING to the question of the successful treatment of this lovely species (vol. xix. pp. 271, 325), I should like to relate my successful experience. Having under my charge a good many of the shy-flowering type, I tried every known method, without being able to produce flowers, so determined to try a perfectly new and different treatment. To prevent the plants from being watered or sprayed by other hands, I selected some of the strongest and most vigorous plants, which are said to be the shyest-flowering type, and put them into my seedling house. The plants had not flowered before, even in their home, and were at rest. The seedling house is shaded by tiffany blinds as long as the sun is shining, from early morning until the sun goes down. The temperature ranges between 73° F. at night to 78° F. by day, and considerably more with sun heat. In this house, of course, very little ventilation is given, and the air is completely charged with moisture. I kept the plants on the dry side, spraying the leaves, bulbs and surface of the compost very lightly three to five times a day, according to the weather. I carried on this treatment until the new growths were four inches long, and then began to water the compost, affording more water as the growths developed. After this treatment the result was marvellous, and each new bulb produced two to five flowers. I have repeated this method with equal success, with new importations as well. As a rule, it will not be necessary to grow the plants so shady. In my opinion, the most important thing is to keep the plants dry until the new growth is about four inches long, but prevent shrivelling by spraying frequently. It is a canon in horticulture that vigorous growing plants are not so free in producing flowers and fruits as starved ones, and working on this starving principle is the reason of my success.

Importers and collectors say that the shy-flowering type grows under trees, near or on the ground, mostly in a shady position, and most growers believe this to be the cause of failure. They therefore grow them in full sun, and I am sure in most cases without producing flowers. I have seen

many plants in different places in Europe treated in this way, and I have treated a few dozen plants after this method myself, with the loss of a good many plants, but without seeing flowers. I was therefore almost certain that this was not the correct treatment. In taking the matter up seriously, I found that where the shy-flowering type of C. gigas grows it is mostly shady, therefore moist, and it is certain that in the moisture the leaves from the trees decay quickly, nourishing the plants more than necessary. This may have been the condition for thousands of years, and I believe it is why we have the shy-flowering type.

ROBERT BLOSSFELD,
Manager to C. F. Karthaus.

Potsdam.

## FERTILISATION AND SECONDARY HYBRIDS.

THE remarkable variation so frequently seen among secondary hybrids is now thoroughly familiar to hybridists, but new cases are constantly causing surprise, especially to beginners and those who purchase a few unflowered seedlings. A correspondent asks us to describe exactly what takes place in hybridising, as it might help to explain some of the things which at present appear incredible, and as the old question of the "false" hybrids of Zygopetalum Mackayi has cropped up again (p. 40) we may attempt to kill two birds with one stone and begin at the very beginning. .

An Orchid flower at the moment of expansion is an incomplete organism. If the ovary be then cut across the ovules will be found to be in a rudimentary state, consisting merely of minute papillæ projecting from the surface of the placentas, and the remarkable thing is that unless the flower is pollinated they remain in this condition until the flower withers and falls away, sometimes weeks after it first opened. If the ovary of most ordinary plants be opened at the same period the ovules will be found fully developed, and capable of being fertilised immediately.

In the rudimentary state that the ovules are in when an Orchid flower expands they are absolutely incapable of fertilisation. They must first grow into the mature condition, and for this some stimulus is necessary. It is supplied by the application of suitable pollen to the stigmas, and the subsequent growth of the pollen tubes. The effect of pollination is quickly visible. In a few hours the floral segments become flaccid, and show signs of withering, and shortly afterwards the column begins to thicken and its wings to close in on the stigma. The pollinia now begin to disintegrate forming with the secretion from the stigma a gelatinous mass, that fills up the stigmatic cavity. Microscopic examination shows that the pollinia are breaking up into the compound four-celled granules characteristic of the Order, and from these the four pollen tubes are already protrubing. They then elongate and push their way down the loose tissue of the style in

countless numbers. Meantime the ovary steadily thickens, and the placentæ and ovules gradually develop, until they reach the mature stage seen in many ordinary flowers at the moment of expansion. Then only is fertilisation effected.

Dr. Hildebrandt found that the period elapsing between pollination and fertilisation in Phaius grandifolius was about two months, and in Dendrobium nobile and Cypripedium insigne four months, while in Orchis and other European terrestrial Orchids the process was complete in eight to fourteen days. In the case of Cattleya Mossiæ, Mr. Veitch found the period to be about three months. Prior to fertilisation the pollen tubes have penetrated the ovary in countless numbers, and lay along the placentæ and among the ovules, which are rapidly undergoing the change of form that indicate maturity. This stage being reached, the pollen tubes enter the micropyle of the ovule and impregnation takes place, the effect of which is to cause the ovules to develop into seeds.

It is a remarkable fact that the pollen of quite distinct genera of Orchids will cause the development of the ovules without subsequently effecting fertilisation, and this is believed to be the reason why the capsules of some crosses decay or open prematurely and contain nothing but "chaff." It has been shown that the young capsule is at least partly formed before fertilisation is effected, and should the latter not take place—from whatever cause—the ovules fail to develop into seeds.

This brings us to the numerous "false" hybrids of *Zygopetalum*, and the question arises whether in these cases fertilisation takes place or not. Pollination from the most diverse genera of Orchids serves to cause the development of the ovary and ovules, and the latter further develop into seeds, which, however, only reproduce the mother plant, and thus are not true hybrids. It is not known how far the diverse pollen tubes develop, nor yet whether they enter the micropyle of the ovule and effect fertilisation. The latter case would indicate complete maternal dominance. On the contrary, should fertilisation not take place the inference would be that the stimulus of pollination had not ceased with maturation of the ovules, but that they had developed further into parthenogenetic buds, capable of reproducing the species. With other species of *Zygopetalum* true intermediate hybrids are produced, also with Colax, showing that fertilisation takes place. The same must probably be said in the case of Chondrorhyncha, for Chondropetalum Fletcheri is not identical with the *Zygopetalum*, though closely resembling it. It is said that the result is the same when the Chondrorhyncha is the seed parent, and if this is really the case the evidence is conclusive. Clear evidence of such a case of paternal dominance would be remarkable, and we should like to see the cross repeated. In no other case, so far as we can learn, has the reverse cross been successful, but evidence is wanting as

to what reverse crosses have been made, and we should like to see a few careful experiments carried out.

A plausible explanation of the "false" hybrids of Zygopetalum would be that it was a case of self-fertilisation, but this idea may be dismissed, for the experiments have been made, and repeated, by expert hybridists, always with the same result—and without pollination no capsules are produced. But microscopic examination would show whether fertilisation takes place or not, and such an experiment as that made by Mr. Veitch in the case of Cattleya Mossiæ would settle the matter. If about fifty flowers of Zygopetalum were taken, half self-fertilised, and half crossed with Odontoglossum crispum—after their own pollinia had been carefully removed—and their subsequent development traced, by their periodic removal and microscopic examination, it would be possible to ascertain what really takes place. A smaller number of flowers would serve if all developed properly, for a weekly examination from the seventh or eighth week would suffice until the critical period arrived, some few weeks later. It would be a very interesting experiment and should settle the matter definitely.

R. A. R.

(*To be concluded*).

## THE AMATEUR'S COLLECTION.

By C. ALWYN HARRISON, F.R.H.S.

### COOL HOUSE.

THE plants in this structure will need almost identical treatment to that set forth last month. More water and ventilation may be given, however, if mild weather prevails. If cold winds are experienced be careful not to open the roof ventilators on the exposed side of the house. Should the collection be situated in the vicinity of a large town, where fogs frequently occur, the roof glass must be well cleansed after each visitation, and during the fog itself the ventilators should be kept closed. The chief duties of the cultivator will be to see that all growing plants receive a fair amount of water, that those resting be kept drier, and at the coolest end of the house, and that the leaves be kept clean by repeated sponging. Tepid rain water should be used for this purpose. This is also a suitable season for washing the pots and for cleansing the inside glass.

Some of the later-flowering Cypripediums should be ready for potting, and the method to be followed and the best compost were explained in my last month's article. If some plants do not need any repotting, it will then be best to leave them until another season. I cannot say that I am an advocate of top-dressing, for replacing the old surface soil by fresh renders it difficult to see the condition of that below, and whilst the surface compost may appear quite moist, that underneath may be dust dry, or *vice-versa*.

Many of the winter-flowering Oncidiums will now need a fresh compost, and, as mentioned some months back, I strongly advise an annual change of soil. For compost use polypodium fibre, sphagnum moss, and well-rotted oak leaves, in equal parts. Mix the whole well together and use in a damp state. These plants should be accommodated at the warmest end of the house, and only given sufficient water to keep them just moist, until it is seen that a fresh start has been made. The undermentioned should be ready for the above treatment: O. crispum, Forbesii, Gardneri, Marshallianum, tigrinum and varicosum.

I do not advise the repotting of Odontoglossums just yet, but will discuss this point next month.

### CATTLEYA HOUSE.

During this and the following month an average temperature of 55° to 60° Fahr. should be maintained, allowing the thermometer to run up to 68° or 70° with sun heat. At night from 58° to 63° should be the correct degree of warmth. Ventilate as freely as the external atmosphere and internal heat of the house will allow. Usually a little bottom air can be admitted from 9 a.m. till 3.30 p.m. The amount of humidity in the house must be regulated by the amount of fire heat employed. Always maintain enough atmospheric moisture to prevent the house from feeling stuffy. A dry heat, combined with a little fresh air, is worse than a damp close atmosphere. Damp down once about noon, on the path, stages and amongst the pots. A nice moisture should thereby be created, but it is yet too early to syringe the plants themselves. Water all plants growing and in bud whenever the compost appears dry, but all at rest or just commencing to grow once a week.

Cattleya Mossiæ, Warneri, late Trianæ, Lælia purpurata, and spring flowering Læliocattleyas, should be placed well up to the light. Personally I prefer a shelf near the roof glass for such, providing it is within easy reach of inspection. Dendrobiums which have their flower buds showing must only be watered sparingly, otherwise the blooms will turn to growths. On no account try to force them, unless it be one or two for some particular reason. If so treated, you must not expect a good display the following season. Any Vanda cœrulea which are in bud must be given all possible light, otherwise the blossoms will become small and colourless.

### SUGGESTED ADDITION.

ODONTOGLOSSUM ROSSII.—This is a pretty dwarf species, which is nevertheless of great beauty, and produces its flowers very freely during this and the following month. The plant only attains the height of five inches, but sends up a short flower scape, bearing several large and delicately tinted blossoms. The sepals are heavily barred with bright chestnut

brown, the petals lilac, and the lip large, prettily frilled, and of a pale lilac shade. This ranks as one of the cheapest Orchids, and is worthy of extensive culture.

## HYBRIDISATION OF ZYGOPETALUM MACKAYI.

OWING to the curious phenomenon of this Orchid producing only "false" hybrids when crossed with Lycaste, Odontoglossum and Phaius, it may be interesting to mention a remark made to me which opens up the possibility of obtaining *real* hybrids from a second generation. It is said that when beardless and bearded wheats were intercrossed, the hybrids produced were all beardless, but when these were again crossed with one of the parents, the offspring were fairly intermediate between the two. I suggest that Zygopetalum Mackayi be crossed, both ways, with Odontoglossum crispum, and the resulting seedlings, when in flower, be united again with the Odontoglossum parent. It seems possible that real hybrids, showing distinct traces of the Odontoglossum, might thus be obtained. I may add that, as a preliminary step, I have crossed Zygopetalum Mackayi with Odontoglossum crispum, Oncidium flexuosum and O. tigrinum.

C. ALWYN HARRISON.

[Mr. Harrison raises an old but very interesting question at an opportune time, as the Zygopetalum is now in bloom. We do not remember if this particular experiment has been tried with Odontoglossum, but it is said to have been carried out with Lælia anceps, the result of a second cross being still Zygopetalum, pure and simple (*O.R.*, xi. p. 4). Such a result is mysterious, to say the least, and the time seems ripe for some experiments upon rather different lines. Zygopetalum is now reported to have been crossed with at least seven different genera, the resulting seedlings amounting to several hundreds, but in no case could the influence of the pollen parent be detected. We should like to see all these crosses reversed, and Zygopetalum pollen is common enough. It is said that such crosses refuse to take, but we do not know how far the experiment has been carried out. The secondary cross suggested by Mr. Harrison could be made at once, for at the R.H.S. meeting held on January 9th, Messrs. James Veitch & Sons exhibited a batch of Zygopetalums that ought to have been hybrids with Odontoglossum crispum, but, as usual, there was no trace of the latter. We have a suspicion that in such cases fertilisation proper does not take place at all, a point which is alluded to on another page. We believe that in some of the above cases Zygopetalum intermedium was used, not the original Z. Mackayi (*Bot. Mag.*, t. 2748), for which the former often does duty in gardens. The mistake arose when Lindley figured what he called Eulophia Mackaiana in the *Botanical Register* (t. 1433), with Zygopetalum Mackayi, Hook., as a synonym.—ED.].

## MR. HARRY J. VEITCH, F.L.S., V.M.H.

WE have now the pleasure of presenting our readers with a portrait of Mr. Harry J. Veitch, F.L.S., V.M.H., head of the firm of Messrs. James Veitch & Sons, Royal Exotic Nursery, Chelsea—the pioneers of Orchid hybridisation—to whom it will be remembered our last volume was dedicated. Mr. Veitch, who was born at Exeter, came to Chelsea with his father in 1853,

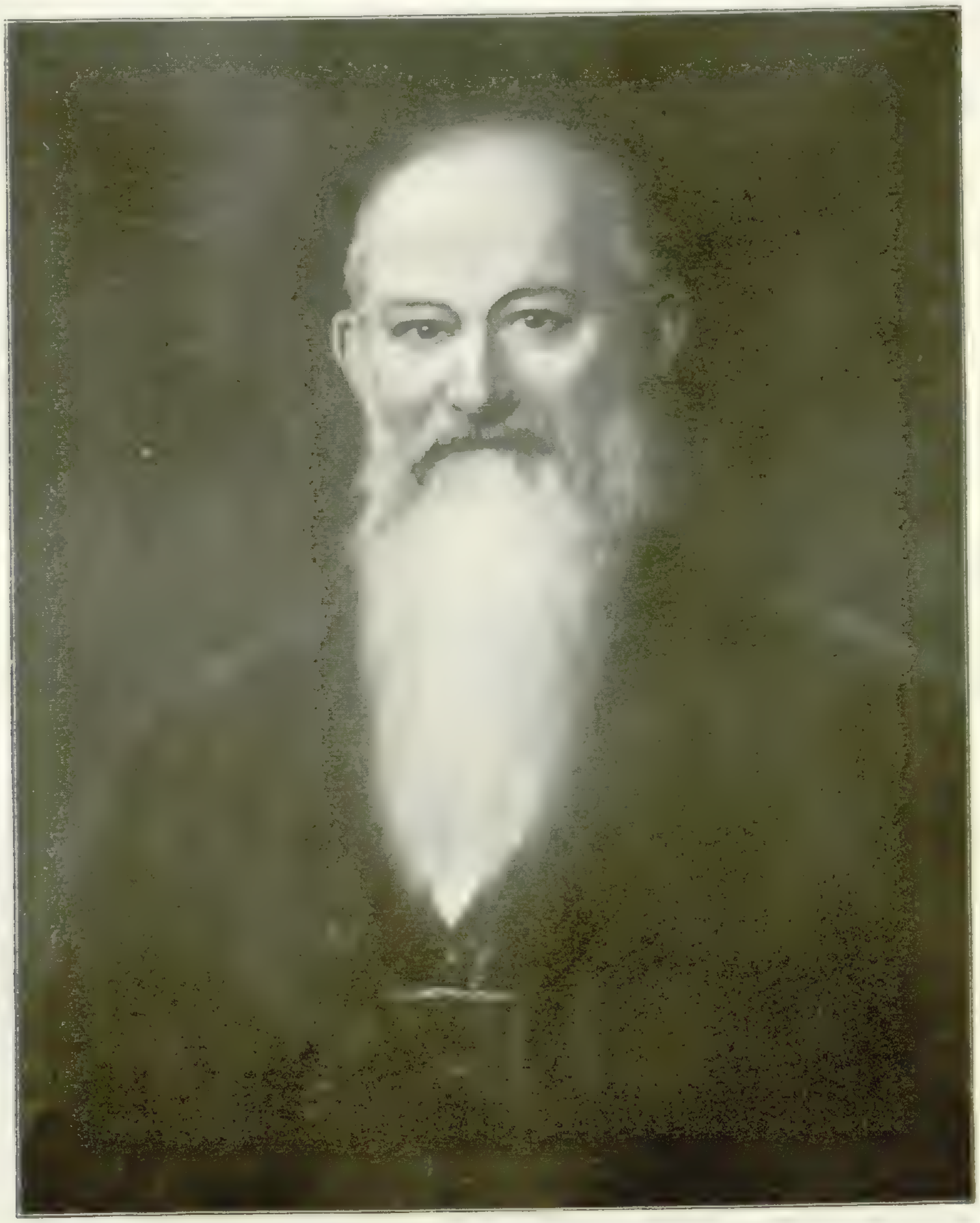

Fig. 7. MR. HARRY J. VEITCH, F.L.S., V.M.H.

when the latter took over the business of Messrs. Knight & Perry, of the Exotic Nursery. A few years later he commenced his career with the firm, and in 1865 was admitted to partnership, assuming the management five years later, on the death of his elder brother, John Gould Veitch. It was just before Mr. Veitch left Exeter that Mr. Dominy began to hybridise

Orchids, and in October, 1856, the firm startled Dr. Lindley with the flowers of their first hybrid—Calanthe Dominii—which drew from the latter the remark, "Why, you will drive the botanists mad"—a prophecy happily unfulfilled. From that early beginning the business of raising Orchids from seed has gradually grown into an immense industry, and it may be said that the subject of our notice has watched, and in part guided, its development from the outset. He has also been its historian, for at the Orchid Conference, held in May, 1885, he gave the firm's experience—extending over a period of nearly thirty years—in a very interesting paper (*Journ. Roy. Hort. Soc.*, n. s. vii. pp. 22-48, t. 1-5). We need not dwell on the matter further, for the history of the question is given in detail in our first volume. Somewhat later he read an interesting paper before the Linnean Society, "On the Fertilisation of Cattleya Mossiæ" (*Journ. Linn. Soc.*, xxiv. pp. 395-406, figs. 1-14).

As an importer of Orchids Mr. Harry Veitch has a long experience, for the achievements in this department of Chesterton, Endres, Gustav Wallis, Kalbreyer, Burbidge, Curtis and Burke were made under his own management. Importations of varions kinds were constantly being received, of which only a few can be mentioned. Chesterton was the first to send home the beautiful Miltonia vexillaria alive, and he also was the introducer of Masdevallia Harryana and Chondrorhyncha Chestertonii. Endres sent the chaste Cattleya Skinneri alba. To Gustav Wallis we owe Epidendrum Wallisii, Masdevallia Wallisii, Cypripedium Haynaldianum and C. Argus; and to Davis, Masdevallia Davisii and M. Barlæana. Burbidge sent home Cypripedium Lawrenceanum and Phalænopsis Mariæ, and Curtis Cœlogyne Dayana, Cypripedium Curtisii and tonsum, while Burke was the discoverer of Cœlogyne Veitchii. The introduction of Cattleya Bowringiana also belongs to this period. The numbers of other plants are outside our province. We must also mention the excellent *Manual of Orchidaceous Plants* produced under Mr. Veitch's management.

Space fails us to tell of Mr. Veitch's numerous other activities. He has been a member of the Council of the R.H.S. since 1887, and took an active part in providing the Society with its fine Hall in Vincent Square. He is a Vice-Chairman of the Orchid Committee, and as Chairman and Treasurer of the Gardeners' Royal Benevolent Institution he has rendered invaluable assistance to a very excellent cause. Mr. Veitch is the worthy upholder of an honoured name, and the esteem and affection in which he is held by the horticultural world are widely known. The services that his firm have rendered to horticulture for over half a century can hardly be estimated. It may be remarked that some eleven years ago Mr. Veitch relinquished the active management in favour of his nephew, Mr. James Herbert Veitch, but before the latter's death, over four years ago, he resumed his

old position, and our readers will join us in wishing him health and strength to carry it on for many years to come.

Our figure is from a photograph of the subscription portrait in oils which was presented to the Council of the Royal Horticultural Society in January, 1910, a replica being also presented to Mrs. Veitch.

## ORCHIDS: A DELIGHTFUL HOBBY.

WE have received from Mr. Edward Clements, the author of the note given at page 8 of our last issue, an interesting photograph of the house described by him. He writes: "I am sending you herewith a photograph of the interior of my small house, taken this afternoon at three o'clock. I thought it would serve to give you some idea of what the house is like, although the photograph, being so small, and in monochrome, does not show the flowers up much. I wish you could see the house just now. With a hand lens you may be able to identify Cattleyas, Cypripediums, Odontoglossums, Lælias (in bud), Vanda cœrulea, Cymbidium Tracyanum with twelve flowers, and Zygopetalum Mackayi. The Phalænopsis at the far end is in spike, but does not show in the photograph; it is hanging from the roof. I should like to say how particularly helpful I have found the monthly Calendar of Operations in the *Review*."

The photograph gives a good idea of the interior of the house, and shows that the plants are in thriving condition, and producing a good display of bloom.—ED.]

## THE GENUS XYLOBIUM.

XYLOBIUM is a small American genus of Orchids, allied to Bifrenaria, several species of which are occasionally met with in gardens. They have very similar, elliptic or lanceolate, strongly plicate leaves, and the flowers are borne in short erect or spreading spikes or racemes. Curiously enough, they have generally been referred to Maxillaria, though so different in habit. About twenty-five species are known, of which X. squalens, the original species (*Bot. Mag.*, t. 2955), and X. leontoglossum (*B.M.*, t. 7085) are frequently seen in cultivation. A few others are occasionally met with, chiefly in botanical collections. There are six species of Xylobium which are at present referred to Maxillaria, namely X. Cœlia (Maxillaria Cœlia, Rchb. f. Warscz.), a native of Venezuela; X. hypocritum (M. hypocrita, Rchb. f.), a Brazilian plant, which is figured in *Gartenflora* (t. 1053, fig. 2); X. miliacea (M. miliacea, Rchb. f.), a Bolivian species; X. ornatum (M. ornata, Klotzsch), a native of Peru; X. truxillense (M. truxillensis, Rchb. f.), a Venezuelan plant; and X. undulatum (M. undulata, Ruiz Pavon), a native of Peru. Most of these have not appeared in cultivation.

R. A. R.

## ODONTOGLOSSUM DELHI.

THIS is a remarkably handsome hybrid from the collection of J. J. Holden, Esq., Southport (gr. Mr. R. Johnson), which received a First-class Certificate from the Manchester Orchid Society on January 12th last. Its parents are Odontoglossum crispum augustum and O. eximium, and the annexed figure, from a photograph by Mr. F. W. Rolfe, shows that the best characters of its distinguished parents have been retained. The flower is of excellent shape, and the segments are very broad, while the prevailing colour may be described as rich claret-purple. The petals are well toothed, and have a

Fig. 8. ODONTOGLOSSUM DELHI.

narrow white margin and apex, and three white lines at the base. The lip is well crisped, and the area round the crest is heavily blotched with purple, while the apex is white. The sepals are rather broader than the petals, but very similar in colour, except that the white margin is not quite so well defined. Mr. Johnson, in sending the flower (with another very handsome thing which will be dealt with next month), remarks that Orchids have done very well there this winter, there being plenty of flower in each department, and he attributes this largely to the preceding remarkably fine summer.

It would be interesting to know what any other seedlings from the same cross were like, for the great diversity among secondary hybrids

from the same capsule has been frequently commented upon, and this reminds us that very similar results sometimes appear from diverse crosses, when the parents contain the same original species—perhaps in somewhat different proportions. The beautiful Odontoglossum egregium var. Madame Jules Hye de Crom (*O.R.*, xvi. p. 209, fig. 27) may be cited as an example. It is said to have been derived from O. Vuylstekei and O. armainvillierense, and thus may be described as made up of O. crispum, Pescatorei, luteopurpureum and triumphans, in somewhat different proportions. One cannot say absolutely that nothing else is represented, owing to a little looseness in the original records, but at all events the composition of the two is very similar. In this case the shape is rather different, the petals less toothed, and the colour rather more bronzy, and extending almost to the margins and apex, while the details of the lip are somewhat different. These are the phenomena which render the naming of secondary hybrids upon any uniform system so extremely difficult, and not only justify, but even necessitate, their being named as florists' flowers, which indeed they are, for the process of hybridisation and selection is the same in each case. Only the best forms are selected as parents, and the numerous inferior forms are discarded, and thus the progress is ever upward. How long it will be before the limit of improvement is reached no one can predict, but we have not nearly reached it yet.

## VANDA CHARLESWORTHII.

ANOTHER plant of this handsome and striking natural hybrid has appeared among imported plants, in the establishment of M. Charles Maron, Brunoy, France, of which a flower has been sent for identification. It is fairly intermediate in general character between the two parent species, the sepals and petals being smaller and less membranous than those of V. cœrulea, and beautifully tessellated with lilac-blue on a greyish ground, while the lip is smaller than in the latter, but similar in colour. This hybrid originally appeared in the establishment of Messrs. Charlesworth, Shuttleworth & Co., in an importation of V. cœrulea, and was exhibited at a meeting at Manchester, in 1894, being shortly afterwards described in these pages on a second plant flowering with Messrs. Hugh Low & Co. (ii. pp. 182, 322). Two or three other plants have since appeared in other establishments under similar circumstances. We strongly suspect that Vanda amœna may be a form of the same, for the resemblance to V. cœrulea is great, and the other supposed parent, V. Roxburghii, grows far away. Two other natural hybrid Vandas have been described, namely, V. Moorei, from V. cœrulea and V. Kimballiana (*O. R.*, v. p. 329), and V. confusa, supposed to be derived from V. cœrulescens and V. parviflora (*O. R.*, x. p. 196).

R. A. R.

## ORCHIDS OF PANAMA.

UNDER the title "Rambles in Panama and Jamaica" an old correspondent, Dr. J. F. Shafer, of Stockton, California, U.S.A., has published some interesting notes of a visit to Panama and Jamaica (*Journ. Bot. Soc. W. Pennsylvania*, i. pp. 19-22), from which, through the author's kindness, we are able to give some extracts. The trip was made for the purpose of becoming better acquainted with the Orchids of these countries, and of securing living specimens for his collection. Sailing from New York on February 4th, 1911, and touching at Cuba and Jamaica, the author reached Colon, Panama, on February 12th, after a delightful voyage of over 2000 miles. He then proceeded by train to the City of Panama, and after some days spent in examining the big Canal works, he made an excursion into the jungle, where in a valley near the Camacho Dam he found his first Orchid, a species of Notylia, also several Epidendrums and a Catasetum.

On the Rio Pedro Miguel nature seemed to be in a quiescent state, and it is remarked that even in the tropics, where conditions are always favourable for growth, a period of rest appears as essential to the existence of plant life as the long period of repose enforced upon vegetation in our temperate zone. It was, therefore, the proper season for collecting Orchids, which should never be disturbed during active growth.

On the bank of the river grew a large tree, which, viewed from below, appeared to be a veritable botanical garden. On the large branches, as well as on the trunk, grew immense masses of Oncidium ampliatum. Many of the plants were pushing up their spikes, while a few were already in full bloom, the massive panicles of bright yellow flowers outrivalling in size and beauty any inflorescene of this desirable Orchid ever seen in cultivation. Growing among the Orchids were large masses of Tillsandsias of various species, numerous species of ferns, Cactus, Philodendrons, mosses, and numerous other interesting plants.

On another tree, farther up stream, were found large masses of Sobralia in bud, and several species of Pleurothallis, Stelis and several other Orchids, the genera of which cannot be determined until flowers appear.

Along the Chagres River many Epidendrums were found, and an occasional plant of the Dove Orchid, Peristeria elata; also a few plants of Camaridium ochroleucum. Other genera collected in this locality were Dichæa, Maxillaria, Trichopilia and Brassavola.

During an excursion to the ruins of Old Panama, on the Pacific coast, many interesting Orchids were collected. Growing on small trees, often within reach from the ground, were the most perfect specimens of Oncidium Cebolleta I have ever seen. On the same tree were unusually large plants of Notylia in endless numbers. On a large tree washed by

the sea at high tide, I found a large mass of Catasetum macrocarpum, bearing enormous seed pods, fully eight inches in length. The walls of an old church, dating from about 1520, about twenty-five feet high, were thickly covered with a most interesting growth of plants, of which a fair estimate would place the number of species at two hundred. Oncidium Cebolleta being the only Orchid observed.

Some notes on the Orchids of Jamaica may be deferred until our next issue.

## LÆLIA GOULDIANA.

IT is rumoured that the recently-imported plants of Lælia Gouldiana (see page 15), did not come from a wild habitat, but from some native garden, and that the actual habitat is not known. We should much like to have the information confirmed. That the natives cultivate the Mexican Lælias is well known, and M. Juan Balme recently informed us that L. anceps is in all parts cultivated in the Indian gardens on the trees and Opuntias. Nothing was stated as to the source of the original plants of L. Gouldiana, and it would be interesting to know if any records exist. If really a garden plant, the question arises how was it originally obtained? and as to this it seems useless to speculate. A native might bring in a handsome form, as this is, and cultivate it, without troubling about its origin, and in time come to possess a stock, and on this view it might still be of hybrid origin. The broad petals and the rich colour suggest an affinity with L. furfuracea, a species probably lost to cultivation, and which is said to grow with L. autumnalis in the State of Michoacan. Reichenbach originally remarked of L. Gouldiana: "If it is a hybrid, as L. Crawshayana may also be, you must think of L. autumnalis, and perhaps of L. anceps, as possible parents, by reason of the grand colours. And why is it not a species, when the nearest allies have such very slight characters? And as a species may have a very wide area, perhaps this L. Gouldiana may be a variety of L. Crawshayana." The latter view has not been confirmed, and it would be interesting to clear up the origin of this mysterious plant.

SPECIES AND HYBRIDS.—It may seem curious that there should be no certain means of distinguishing species from hybrids, unless the latter are imperfect in some of their organs, which not infrequently happens through incompatability of structures caused by the union of two distinct organisms. But among Orchids hybrids are often not only apparently as perfect, but also as fertile as their parents, a fact which illustrates the difficulty of identifying a natural hybrid from examination only, unless the importation or the native country is known. It is not always that they possess characters intermediate between two well-known species.

## CYPRIPEDIUM SAN-ACTÆUS, WESTFIELD VAR.

THE annexed figure represents a handsome hybrid from the collection of Francis Wellesley, Esq., Westfield, Woking, which received an Award of Merit from the R.H.S. on January 9th last, under the name of Cypripedium San-Actæus, Westfield var. It is said to have been a solitary seedling raised by Messrs. James Veitch & Sons, from C. insigne Harefield Hall var. and C. Actæus langleyense, and was afterwards acquired by Mr. Wellesley. It is a large and striking form, having a dorsal sepal 2¾ inches across, white above, tinged with yellowish green at the base, and hand-

Fig. 9. CYPRIPEDIUM SAN-ACTÆUS, WESTFIELD VAR.

somely blotched with purple-brown. The petals and lip are yellow, with brown suffusion and markings. Its general character is well shown in the figure, which is from a photograph by Mr. F. W. Rolfe, but was inadvertently too much reduced in size. For some time it was known as C. etoniense, and has been so recorded, but the Orchid Committee changed the name as above. C. San-Actæus was raised in the collection of the late Norman C. Cookson, Esq., from C. insigne Sanderæ and C. Actæus, and received the R.H.S. Award of Merit in January, 1905.

## ONCIDIUM KRAMERIANUM.

THE annexed figure represents a good form of Oncidium Krameriamum, and is reproduced from a photograph taken by Mr. M. Bateman of a plant now flowering in my collection, carrying three spikes. For a warm house it is a most useful species, its quaint butterfly-like flowers never failing to arouse

Fig. 10. ONCIDIUM KRAMERIANUM.

interest in all who see it. It is of easy culture, and should be widely grown by all possessing a house capable of maintaining the required heat. The average temperature of 60 deg. in winter and early spring, with a proportional rise during summer, suits this Orchid admirably, and it should be given a light position at the warmest corner of the house. It rarely rests, and con-

N.Y. Bot. Garden
1913

sequently must never be allowed to become dry, though only enough water to keep the compost damp is required. Only pure rain water should be used, and from October to April this should be tepid. Frequent root disturbance is harmful, but when re-potting becomes a necessity the plant should be carefully removed from the old receptacle and placed in a pan of fresh soil. This should consist of osmunda fibre, with sphagnum moss, finely chopped, and a little oak leaf dust obtained by rubbing well decayed oak leaves through a fine sieve. Little shade is needed throughout the year, only sufficient to prevent the leaves from becoming scalded by the sun. When a flower is faded the spike should not be cut, for fresh flowers are produced on the old spike. It is unwise, however, to let the plant produce more than three flowers on each spike, as it prevents the new growth from getting proper nourishment. The leaves should be sponged once a week, and when in bloom the plant must never be subjected to too low a temperature. Oncidium Kramerianum is closely allied to O. Papilio, from which it differs, however, in having knotted flower spikes, and the blossoms are larger and more highly coloured. It would be interesting to know if any seedlings have been raised from this Orchid, for from personal experience it does not seem to cross readily.

C. ALWYN HARRISON.

## CALENDAR OF OPERATIONS FOR FEBRUARY.

By J. T. BARKER, The West Hill, Hessle, E. Yorks.

ALTHOUGH up to the present we have not experienced any severe weather, we may do so now at any time, and it is therefore desirable to keep everything as far as possible at rest, not pushing anything into growth, for fear it may receive a severe check. The temperatures for this month should remain as advised for January, except that a rise of a few degrees may be allowed with sun heat, and with it an increased amount of atmospheric moisture will be necessary to subdue the dryness that comes from an overheated atmosphere. Great attention will be necessary in the ventilation of the houses, as, after such dull weather as we have lately had, a great deal of harm can be done by a spell of clear frosty weather accompanied by bright sunshine, if the house is allowed to go too long without ventilation.

POTTING.—There are many plants that may now be potted, so I think perhaps it would be useful to make a few remarks on the subject. The potting of plants, to my mind, does not consist in merely putting a plant into a pot or pan, and pressing so much compost around it to hold it in position, but every family of plants should be studied, so to speak, so that the compost should be of the right kind, and of the degree of firmness that the plant requires. Orchids are like other plants, they vary as regards the amount of energy their roots possess, and some are capable of pushing

through more solid substances than others. No plant should have the compost placed so lightly around it that it acts like a sponge, holding a great deal of water for a time and then quickly drying up. Each plant should be potted in such a manner that the compost is of an even texture all round it, and just as firm, and no firmer, than its roots are capable of pushing through. The potting of plants should be pushed on as much as possible, as the more that we can do at this early season the more time remains for those that follow after. I am a great advocate for a nice sweet rooting medium for all Orchids, and if the compost is at all decayed or sour I do not hesitate to repot it into new. The water conditions afterwards is the great thing that needs attention. Do not give the plant one drop more than is necessary, but do not let it get into that over-dry condition, when water will not properly penetrate.

COMPOST.—I am still of the opinion that could we get fibrous peat as good as formerly there is nothing to equal it, but as this seems impossible, we have to make a compromise, and that is why I recommend the different fibres now in use. Polypodium is a very fine soft fibre which many plants appreciate, while osmunda and AI fibre add toughness, which many of the strong rooting Cattleyas, Læliocattleyas, and Brassocattleyas revel in. Oak leaves, to my mind, are more or less a stimulant, and must be used judiciously. The plants will soon speak for themselves, and my advice to all cultivators is that, if successful with any particular plant, they should still proceed on their own lines. All composts should be of the best procurable of their several kinds.

CYPRIPEDIUMS of the insigne family may be repotted as they pass out of flower, should they require it. The compost I find them to succeed best in is as follows: One part of good fibrous peat: one part polypodium fibre, half a part of loam fibre, and sphagnum moss. I get finer and better flowers from this compost than from any other. Any of the green-leaved section may have attention in the same way, as they pass out of flower, should they need it. Those of the tessellated-leaved section, such as C. Lawrenceanum, Dayanum, and others, are better without the loam. For C. bellatulum concolor, and niveum, I use a compost of equal parts of each of the above.

DENDROBIUMS of the nobile section are fast pushing up their flowers, and, if not already done, should be cleaned, and put in their flowering quarters. A temperature of about 60° will suit them admirably. D. Wardianum will succeed under the same conditions, but in no case must they receive an excess of water.

LÆLIA ANCEPS and its allies bloom at a season when flowers are doubly valuable, owing to the blank between the flowering periods of C. labiata and C. Trianæ and Percivaliana. They are now passing out of bloom, and may be repotted or repanned—should they require it—as soon as new roots are

seen to be pushing from the base of the bulb. The compost I recommend for them is as follows: Two parts osmunda and peat fibre, one part A1 fibre and sphagnum moss, all well mixed together. In potting large plants of this family it is desirable to turn the leading growths towards the centre of the pot or pan. Make the compost moderately firm, and secure the plant by the aid of stakes to prevent rocking, as a rocking plant can never take root-hold properly.

MASDEVALLIA tovarensis will commence to grow as soon as the flowers are over, and this is a good time to repot. I prefer growing the smaller Masdevallias in shallow pans, and for want of room I always suspend them. The compost I use is an equal part of peat, polypodium fibre, osmunda fibre, and clean sphagnum moss, with a fair sprinkling of half-decayed leaves, rubbed through a half-inch sieve. The compost should not be placed too tightly around them, but pressed in just sufficient to make the plants firm, and hold them in position. Species of the Chimæra section, which comprise M. bella, Chimæra, Chestertonii, and many others, may also have attention if they are in need of it. These plants must be placed in shallow teak-wood baskets, as their flowers are produced from spikes which often come from the bottom of the plant. Any of the stronger-growing kinds, such as M. Harryana, Veitchiana, and ignea, that were left over in the autumn, and now require a shift, may be done at this season using the above compost, with the addition of a little fibrous loam. Great care should be taken that the plants after being repotted neither suffer for the want of water nor through excess of it.

ONCIDIUMS of the winter-flowering varieties may be repotted as they commence to grow and make roots from the new bulbs. The compost recommended for Miltonias last month will answer their requirements, except that a larger proportion of leaves may be used. Oncidiums of the macranthum section should have their spikes carefully trained round stakes, or in some other way, where they can be carefully watched for slugs, which are very partial to them, and indeed to the plants generally. These plants delight in an abundance of water until their flowers are fully developed.

PHALÆNOPSIS.—These lovely winter-blooming Orchids are now practically over for the season, and will enjoy a short rest of about a month or six weeks' duration before commencing to grow again. They should therefore receive only sufficient water to support the large, fleshy leaves, which should remain perfectly pliant and healthy for the longest time possible, as they are the main strength of the plant. Many growers use various receptacles to place them in, some favouring teakwood baskets, others cylinders, but I am of opinion that as good results can be got when they are grown in shallow pans or even in pots. I am not a believer in growing these plants suspended.

BULBOPHYLLUMS and CIRRHOPETALUMS may be shifted into larger receptacles as soon as they commence to make new roots, using the compost recommended for Miltonias. These interesting plants should be grown in every collection, as their quaint flowers arouse a great deal of interest, and to many people are more attractive than some of the more showy species.

PESTS of all descriptions must be continually looked for, the different remedies being brought into action whenever they are found to be present.

SHADING.—In many places it will have been found already necessary to shade the Cool houses, and to put shading over such plants as Aërides, Phalænopsis, Angræcums, Cypripediums, Zygopetalums, and others that are likely to have their leaves disfigured by the sun's rays: also any plants which have recently been repotted. Here we do not find it necessary to bring shading into general use until the beginning of March, but it is desirable to have everything put into proper order by the time it will be required, so I would recommend that these matters have attention at once. I do not recommend painting the glass, but prefer blinds (lath roller for preference) to any of the so-called mixtures for painting on the glass. It is advisable, however, that the ends and sides of the houses should be painted.

GENERAL REMARKS.—It should be the aim of every cultivator at this season to keep his plants as quiet as possible, not to push them into growth, as we are not yet out of the winter. Growth will be much finer, more solid, and better in every way if developed under the extra light from the sun, and consolidated as made. I would urge my readers to study the smallest details, even the crocking of the pots and pans, as it is by this means that success is attained. Watering the plants must be done judiciously and with caution, bearing in mind that it is easier to make the compost too wet than it is to get it dry again.

## SOCIETIES.

### ROYAL HORTICULTURAL.

A MEETING of the Committees was held at the Royal Horticultural Hall, Vincent Square, Westminster, on December 19th, 1911, when the exhibits were limited to plants submitted for awards. Some very interesting Orchids were shown, and the awards consisted of two First-class Certificates and four Awards of Merit.

Orchid Committee present: Harry J. Veitch, Esq. (in the Chair), and Messrs. J. O'Brien (Hon. Sec.), J. Gurney Fowler, C. J. Lucas, W. Bolton, A. Dye, H. G. Alexander, J. E. Shill, W. H. Hatcher, J. Charlesworth, T. Armstrong, A. McBean, F. J. Hanbury, Gurney Wilson, and C. H. Curtis.

#### FIRST-CLASS CERTIFICATES.

CYPRIPEDIUM ROYAL SOVEREIGN (Hera robustum × Urania var. Martin Cahuzac).—A very distinct and handsome hybrid, having the dorsal

sepal very regularly dotted and feathered with claret-purple on a white ground, the markings becoming darker towards the base, while the lip and petals are mahogany red, the latter with some darker spotting. Six species are concerned in the parentage, C. Argus, Boxallii, Charlesworthii, insigne, Lawrenceanum, and Spicerianum. Exhibited by Messrs. Sander & Sons.

LÆLIOCATTLEYA NELLA (L.-c. Dominiana langleyensis × C. labiata).—A very handsome hybrid, like a fine C. labiata in shape, with much intensified colour. The sepals and petals are bright rose, with lighter veining, and the lip glowing ruby red, with some yellow lines in the throat. Exhibited by Messrs. James Veitch & Sons, Chelsea.

## AWARDS OF MERIT.

CYPRIPEDIUM ACTÆUS VAR. DURBAR (insigne Harefield Hall var. × Leeanum giganteum).—A fine form, having a large white dorsal sepal, with yellowish green base, and a number of large sepia brown blotches, while the petals and very broad lip are yellow, tinged with sepia brown. Exhibited by Messrs. Charlesworth & Co., Haywards Heath.

CYPRIPEDIUM INSIGNE GATTON PARK VAR. (insigne Harefield Hall var. × i. montanum).—A large and handsome form, most like the former in general character, but the dorsal sepal flatter and the markings darker. Exhibited by Sir Jeremiah Colman, Bart., V.M.H., Gatton Park, Reigate (gr. Mr. J. Collier).

CYPRIPEDIUM LORD WOLMER, WESTONBIRT VAR. (Leeanum × Euryades leopardinum).—A very large and handsome variety, which is figured at page 9 of our last issue. Exhibited by Sir George L. Holford, K.C.V.O., Westonbirt (gr. Mr. H. G. Alexander).

ODONTOGLOSSUM CRISPUM ALCYONE.—A handsome form, bearing a spike of fourteen flowers, the ground colour being white, blotched with purple on the sepals, and a cluster of small purple spots on the petals. Exhibited by J. Gurney Fowler, Esq., Glebelands, S. Woodford (gr. Mr. J. Davis).

A number of other interesting things were shown, as follows:—

Sir Jeremiah Colman, Bart., sent a plant of the brilliant Odontioda Diana.

The Hon. Lady Neeld, Grittleton (gr. Mr. Pitts), sent Cattleya Venus var. Lady Neeld.

Francis Wellesley, Esq., Westfield, Woking (gr. Mr. W. Hopkins), showed the handsome Brassocatlælia Veitchii and Læliocattleya Rubens, Westfield var.

Messrs. Sander & Sons, St. Albans, sent Cypripedium Troilus var. Invincible, a very large and handsome form.

Messrs. James Veitch & Sons, Chelsea, sent Cypripedium Snowdon, a light yellow flower, and a fine form of C. Clonia.

Messrs. Charlesworth & Co., Haywards Heath, sent a fine plant of the

distinct and striking Oncidium anthocrene, bearing scapes about four feet long, Læliocattleya Myrrha var. flavescens, and Odontioda Cooksoniæ venustum, a bright red form.

Mr. E. V. Low, Vale Bridge, Haywards Heath, sent Cypripedium The Nizam (Helen II. × insigne Harefield Hall var.), having cream yellow flowers spotted with purple: C. The Gaekwar (Ceres Fascinator × Leeanum), in which the influence of C. hirsutissimum re-appears very strongly; C. Beryl, West Point var., C. Samuel Gratrix, C. Napoleon, and C. The Maharajah.

Messrs. Stuart Low & Co., Bush Hill Park, sent Vanda Amesiana albens, a nearly white form.

Mr. H. A. Tracy, Twickenham, sent Læliocattleya Floryi (L.-c. Violetta, × C. Trianæ), having blush white sepals and petals, with the front lobe of the lip violet-purple, and Cypripedium villosum, Tracy's var.

---

At the first meeting of the new year, held on January 9th, there was a very fine display of Orchids, including ten medal groups, and the awards consisted of one First-class Certificate, eight Awards of Merit, and one Cultural Commendation.

Orchid Committee present: J. Gurney Fowler, Esq. (in the Chair), and Messrs. J. O'Brien (Hon. Sec.), W. Bolton, Gurney Wilson, Harry J. Veitch, J. Wilson Potter, R. Brooman White, de Barri Crawshay, W. H. White, A. Dye, H. G. Alexander, J. E. Shill, W. H. Hatcher, J. Cypher, W. P. Bound, W. Cobb, J. Charlesworth, A. A. McBean, T. Armstrong, F. J. Hanbury, C. H. Curtis, J. S. Moss, and Stuart H. Low.

Sir Jeremiah Colman, Bart., Gatton Park, Reigate (gr. Mr. J. Collier), staged an interesting group, containing some fine forms of Læliocattleya epicasta, Dendrobium superbiens violaceum, Phaiocalanthe Colmaniæ rosea, and others (Silver Backsian Medal).

De Barri Crawshay, Esq., Rosefield, Sevenoaks (gr. Mr. Stables), sent Lælia anceps Schrœderæ rosefieldiensis and L. a. S. Seuenacca, two finely-coloured forms.

F. J. Hanbury, Esq., Brockhurst, East Grinstead, sent Cypripedium J. F. Alcock, a hybrid of C. insigne Wallacei.

G. Hanbury, Esq., Blythewood, Burnham (gr. Mr. Branson), sent fine plants of Calanthe vestita rubro-oculata and luteo-oculata.

Lieut.-Col. Sir G. L. Holford, Westonbirt (gr. Mr. H. G. Alexander), sent Cypripedium Bronzino (parentage unrecorded), having a bronzy rose dorsal sepal margined with white, and bronzy yellow sepals and petals, C. nitens-Leeanum aureum, and Cattleya Peetersii Westonbirt var. (labiata G. G. Whitelegge × Hardyana alba), a beautiful white flower, with deep rose lip, veined with yellow at the base.

Sir Trevor Lawrence, Bart., K.C.V.O. Burford (gr. Mr. W. H. White), sent Cypripedium Hera, Burford var., C. Eurybiades (Euryades × Alcibiades), C. semilunare, with lunate white margin to the dorsal sepal, and a well-flowered plant of Maxillaria arachnites.

Earl Stanhope, Chevening Park (gr. Mr. Sutton), showed Calanthe vestita grandiflora.

Francis Wellesley, Esq., Westfield, Woking (gr. Mr. W. Hopkins), sent Cypripedium Little Gem, C. memoria Mostynii, a fine yellow flower with the upper half of the dorsal sepal white, and a few other good things.

Messrs. Armstrong & Brown, Tunbridge Wells, staged a fine group, including Odontioda Bradshawiæ, Odontoglossum eximium, amabile, and others, some well-flowered plants of Masdevallia Schrœderiana, Calanthe bella, and some good C. Harrisii, fine forms of Cypripedium Leeanum, and other good things (Silver Flora Medal).

Messrs. Cypher & Sons, Cheltenham, sent a fine group, including the chaste Calanthe Harrisii, Lycaste lasioglossa, Masdevallia bockingensis, Cattleya Dusseldorfii Undine, and other good Cattleyas, with a lot of choice Cypripediums, including C. Leeanum Clinkaberryanum with seven flowers (Silver Flora Medal).

Messrs. Stuart Low & Co., Bush Hill Park, staged a fine and varied group, including the charming Cattleya Percivaliana alba, C. Trianæ alba, and C. Raphaeliæ alba, Oncidium varicosum concolor, Saccolabium bellinum, Læliocattleya Cappei, Masdevallia polysticta and others, Sophrocattleya Saxa, Dendrobium superbiens, Listrostachys arcuata, some good Cypripediums, with Calanthe Veitchii and others (Silver Flora Medal).

Messrs. J. & A. A. McBean, Cooksbridge, sent a fine lot of Lælia anceps Schrœderæ, a very richly-coloured form, bearing some twenty-seven spikes, L. a. Chamberlainiana, and others, some good Odontoglossums, Odontioda Charlesworthii, Sophrocattleya Thwaitesii, with some Calanthes and Cypripediums (Silver Flora Medal).

Messrs. Sander & Sons, St. Albans, staged a very fine group, including many good examples of Læliocattleya Cappei, Lælia anceps, Phalænopsis amabilis and Stuartiana, Mormodes Lawrenceanum, Cymbidium Holfordianum, C. Ballianum, Odontoglossums, Cypripedium caudatum Sanderæ, a yellow tinted form, C. Golden Oriole (insigne Sanderianum × Dreadnought), a fine yellow form with the upper half of the dorsal sepal white, and a few light purple lines up the middle, the rare Sievkingia suavis, and some other Peruvian Orchids (Silver Flora Medal).

Messrs. James Veitch & Sons, Chelsea, staged a fine group, the centre containing some good plants of Zygopetalum intermedium, with Odontoglossum crispum, Cypripedium Iolanthe, many plants of C. insigne Sanderæ, and other insigne forms and hybrids (Silver Flora Medal).

Messrs. Charlesworth & Co., Haywards Heath, staged a choice group, including Odontioda Schrœderi (O. Bradshawiæ × Odontoglossum crispum), a very pretty novelty, having bright red flowers, with white tips to the segments, and a yellow crest to the lip, Læliocattleya bella alba, L.-c. Andromeda, L.-c. Ariel, Cattleya Octavia, and a number of good Odontoglossums (Silver Banksian Medal).

Mr. E. V. Low, Vale Bridge, Haywards Heath, sent a pretty white form of Dendrobium Phalænopsis, Bulbophyllum siamense, and several choice Cypripediums (Silver Banksian Medal).

Messrs. Hassall & Co., Southgate, staged a pretty group of Masdevallias, Cattleyas, and Odontoglossums (Bronze Banksian Medal).

### FIRST-CLASS CERTIFICATE.

LÆLIOCATTLEYA BELLA ALBA (L. purpurata × C. labiata).—A fine plant, bearing a spike of six flowers, with pure white sepals and petals, and a rich crimson-purple lip, with some yellow lines in the throat. Exhibited by Baron Bruno Schröder, Englefield Green (gr. Mr. J. E. Shill).

### AWARDS OF MERIT.

CATTLEYA MAGGIE RAPHAEL ALBA ORCHIDHURST var. (Trianæ alba × Dowiana).—A charming form, with pure white sepals and petals, and a rich magenta crimson lip veined with yellow. Exhibited by Messrs. Armstrong and Brown.

CYMBIDIUM ROSEFIELDIENSE (grandiflorum × Tracyanum).—A very fine hybrid, having broad green sepals and petals, lined with red, and the lip cream white spotted with red-brown. Exhibited by de Barri Crawshay, Esq.

CYPRIPEDIUM CATILINE (Mrs. Wm. Mostyn × Leonidas superbum.)—A fine hybrid, having the upper third of the dorsal sepal white, and the rest veined and suffused with rose-purple, the petals and lip being honey yellow tinged with brown. Exhibited by the Duke of Marlborough, Blenheim Palace (gr. Mr. Hunter).

CYPRIPEDIUM JUCUNDUM (Alcibiades × Veronica).—A beautiful hybrid, having a pure white dorsal sepal, with rows of purple dots and a small green area at the base, and the lip and petals cream white, tinged with purple, the latter bearing some small purple dots. Exhibited by Messrs. Sander and Sons.

CYPRIPEDIUM NITENS-BEECKMANII (nitens × Beeckmanii).—A striking hybrid, having a large white dorsal sepal, with claret crimson spots and a green base, while the broad petals and lip are yellow tinged with reddish brown. Exhibited by J. Gurney Fowler, Esq., S. Woodford (gr. Mr. J. Davis).

CYPRIPEDIUM SAN-ACTÆUS WESTFIELD VAR.—A very beautiful hybrid, having a large white dorsal sepal, copiously blotched with purple-brown,

and the base tinged with yellowish green, while the petals and lip are yellow suffused with brown. Exhibited by Francis Wellesley, Esq.

LÆLIOCATTLEYA MRS. W. HOPKINS (L.-c. Haroldiana × L. Iona nigricans).—A handsome hybrid, having the sepals and petals flame-coloured, flecked with rose, and the lip glowing violet-purple. Exhibited by Francis Wellesley, Esq.

ODONTOGLOSSUM CRISPUM QUEEN OF THE MORN.—A very handsome white flower flushed with lilac-rose. Exhibited by Walter Cobb, Esq., Normanhurst, Rusper (gr. Mr. C. J. Salter).

### CULTURAL COMMENDATION.

DENDROBIUM SPECIOSUM VAR. NITIDUM.—A noble specimen, with many flower spikes. To Mr. J. Collier, gardener to Sir Jeremiah Colman, Bart.

---

## MANCHESTER AND NORTH OF ENGLAND ORCHID.

### Meeting of November 30th, 1911 (*concluded from page* 30).

Messrs. J. Cypher & Sons, Cheltenham, were awarded a Silver Medal for a group, composed principally of Cypripediums, the insignes being well represented in Harefield Hall var., Bohnhofianum, Sanderæ and Sanderianum, with C. Leeanum Coronag, iganteum, magnificum, virginale, Cypher's var., and C. Lathamianum.

Messrs. A. J. Keeling & Sons, Bradford, were awarded a Silver Medal for Cypripedium insigne and Leeanum in variety, Diomede Keeling's var., villosum var. Brilliant, Charlesworthii var. Beauty, Thalia Mrs. F. Wellesley and Mary Beatrice (See Awards.)

Messrs. Sander & Sons, St. Albans, staged Cypripedium Thalia var. splendens, Gratrixiæ and Alabaster.

Mr. D. McLeod, Chorlton-cum-Hardy, staged Cypripedium Actæus revolutum, triumphans, vexillarium, Zena, Cravenianum, and several seedlings (See Awards).

Messrs. Stuart Low & Co., Enfield, staged several nice Cattleyas, C. Rhoda being very fine, and a good plant of Cypripedium Priam.

Mr. H. Arthur, Blackburn, staged Cypripedium insigne Laura Kimball, Sanderæ,Chantinii Lindenii,and Aberdeen, with C. Arthurianum pulchellum.

### FIRST-CLASS CERTIFICATES.

Odontoglossum crispum var. Briseis, a good round, heavily blotched flower, and O. Thais, another of the wonderful hybrids of uncertain parentage, from W. R. Lee, Esq.

Cattleya Roehrsiana Ashworth's var., a large well-set flower, of good colour, and C. Gildenii (Hardyana × Maggie Raphael), a beautiful hybrid, from R. Ashworth, Esq.

Cypripedium Our King (insigne Harefield Hall var. × Niobe), a fine bold flower, the former parent predominating, from Wm. Thompson, Esq.

Odontoglossum Bronze Dragon, one of the most beautiful Odontoglossoms yet seen, flowers 3½ inches across, coloured all over a delightful shade of crushed strawberry: and Cattleya labiata albescens, a fine albino, from J. J. Holden, Esq.

AWARDS OF MERIT.

Odontoglossum Harmaches and O. Lais, two novel hybrids of almost indescribable shades of colour: Miltonia Leopoldii nobilior, a fine flower of good colour: Cattleya labiata Virgin Queen, and Lælia præstans Snow Queen, from W. R. Lee, Esq.

Odontoglossum crispum Rosemont. a well formed evenly marked flower, O. eximium var. Nubian, very deep in colour, and Vanda cœrulea alba, flowers rather small, segments pure white, and lip a beautiful blue, from R. Ashworth, Esq.

Cypripedium Corneyanum var. Marie Louise, C. Alcibiades Ward's var. and C. James Renwick (insigne Harefield Hall var. × Actæus), a large well marked flower, from Z. A. Ward, Esq.

Cypripedium Bonar Law (J. Howes × Actæus), a very neat flower, showing both parents, from Colonel Rutherford, M.P.

Læliocattleya Captain Starkie (L.-c. Eudora × C. labiata), a fine flower, of good even colour, from J. McCartney, Esq.

Cypripedium hybrid, a good form of unknown parentage, from Wm. Thompson, Esq.

Cattleya O'Brieniana alba, a rare and beautiful albino, from J. J. Holden, Esq.

Odontoglossum Dora var. Mrs. H. B. Irving (Lambeauianum × Pescatorei Duchess of Westminster), a fine, well-coloured flower; Cattleya Mrs. Frank Hurndell (Trianæ × Iris), a nice variety: and Sophrolælia Miss Edith d'Abrew (S.-l. heatonensis × C. Iris), from R. le Doux, Esq.

Cypripedium Leeanum var. Mona, a very fine flower, from H. J. Bromilow, Esq.

Cypripedium Mrs. Alice Walmsley (parentage unknown), a dark flower of good shape, with a white band all round the dorsal sepal, from James Walmsley, Esq.

Cypripedium Hitchinsiæ giganteum and magnificum, both fine forms, from Messrs. A. J. Keeling & Sons.

Cypripedium Seymouriæ (Leeanum Clinkaberryanum × Farrieanum), a fine bold flower, from Mr. D. McLeod.

---

AT the meeting held on December 14th, 1911, the members of Committee present were:—Rev. J. Crombleholme (in the chair), R. Ashworth, W. R. Lee, C. Parker, H. Thorp, A. Warburton, Z. A. Ward, J. C. Cowan, J. Cypher, W. Holmes, A. J. Keeling, D. McLeod, and H. Arthur (Secretary),

W. R. Lee, Esq., Heywood (gr. Mr. Woodhouse), was awarded a Silver-gilt Medal for a very effective group of Cattleyas, Odontoglossums, Cypripedium insigne Harefield Hall var. and Sanderæ, C. Leeanum Clinkaberryanum, Corona, and Keeling's var., with C. Minos Youngii, Priam, Bianca, Thalia Mrs. F. Wellesley, Læliocattleya Doreen, and others.

Z. A. Ward, Esq., Northenden (gr. Mr. Weatherby), received a Silver Medal for a pleasing group, including Odontoglossums in variety, Cattleyas Mantinii, Miss Williams, and others, Cypripedium insigne in variety, including King Edward VII., C. Leeanum Clinkaberryanum and giganteum, Lycaste Skinneri alba, and a few Calanthes.

R. le Doux, Esq., West Derby (gr. Mr. Fletcher), was awarded a Silver Medal for a choice group of Cypripediums, containing Dora Jameson, Miss Gladys Lederer, Marlfieldii, Minos Youngii, Queen Alexandra, Euryades New Hall Hey var., Priam magnificum, Actæus Drewett's var., Thalia Mrs. F. Wellesley, insigne Berryanum, and Leeanum Clinkaberryanum.

R. Ashworth, Esq., Newchurch (gr. Mr. Gilden), was awarded a Silver Medal for a very pretty mixed group, composed of Odontoglossum crispum, cirrhosum var. sanguineum, and several hybrids, Cypripedium Pica, Actæus Drewett's var., Euryades, Vanda cœrulea alba, Oncidium Forbesii, Calanthe William Murray, and others.

Col. J. Rutherford, M.P., Blackburn (gr. Mr. Lupton), received a Silver Medal for a very effective group, including Odontoglossum percultum Beardwood var., amabile var. Rosedrop, Cypripediums and Cattleyas in variety, with a number of Epidendrum vitellinum majus.

A. Warburton, Esq., Haslingden (gr. Mr. Dalgleish), was awarded a Silver Medal for a group of choice and well-grown Odontoglossums, Cypripedium insigne Sanderianum, Gladys, Harefield Hall var., Sanderæ, several C. Hitchinsiæ, and Dendrobium Phalænopsis Schrœdreianum album.

F. A. Hindley, Esq., Bradford, received a Silver Medal for a nice group of Cypripediums, including C. Leeanum, Corona and giganteum, C. Lord Ivor, Fairrieanum, Mons. de Curte, Thalia Mrs. F. Wellesley, Germaine Opoix, and Minos Youngii.

Rev. J. Crombleholme, Clayton-le-Moors (gr. Mr. Marshall), was awarded a Bronze Medal for a small group of Cypripediums, including a fine plant of C. Baron Schröder, with six flowers, C. Arthurianum, Leeanum Clinkaberryanum and giganteum, several varieties of C. insigne, Miss Louisa Fowler and villosum auriferum.

J. McCartney, Esq., Bolton (gr. Mr. Holmes), was awarded a Bronze Medal for a mixed group, including Cypripedium insigne Harefield Hall var., Sanderæ, Sanderianum, and Schofieldianum, C. Leeanum in variety, C. Hitchinsiæ, Vanda cœrulea, Lycaste Skinneri alba, and Lælia anceps.

G. H. Peace, Esq., Monton Grange (gr. Mr. Mace), received a Bronze

Medal for a small group of Cypripediums, the most noticeable being Thalia giganteum, villosum auriferum, Leeanum Corona and Keeling's var., insigne Aberdeen and Laverton's var., Actæus superbum, Troilus Fielding Park var., nitens Prince Olaf, and aureum viride.

H. J. Bromilow, Esq., Rann Lea (gr. Mr. Morgan), sent Cypripedium Victory.

J. J. Holden, Esq., Southport (gr. Mr. Johnson), sent Cypripedium Actæus var. Queen Alexandra, Læliocattleya epicasta, Cattleya Hildegarde, and the albino C. labiata Princess Victoria and Empress.

J. Leemann, Esq., Heaton Mersey (gr. Mr. Smith), sent Cypripedium Actæus Drewett's var., and C. Neptune.

J. H. Craven, Esq., Keighley (gr. Mr. Corney), staged Cypripedium Euryades splendens, Boltonii, a fine seedling Euryades × insigne Harefield Hall var., and a good C. Leeanum.

H. Thorp, Esq., Rhodes, sent a nice plant of Cypripedium Leeanum giganteum.

Messrs. J. Cypher & Sons, Cheltenham, were awarded a Silver Medal for a splendid group of Cypripediums, including C. Leeanum giganteum, with 21 good flowers, C. insigne Oddity, Kathleen Corser, syhlletense giganteum, and Mrs. F. Sander, with C. Cynthia, Clio, Leeanum Prospero, Archimedes, Niobe superbum, Arthurianum, and others.

Mr. Ed. V. Low, Haywards Heath, received a Silver Medal for a group of Cypripediums, magnificent plants, carrying up to 5 and 6 flowers on each, and including insigne Sanderæ and Harefield Hall var., Thalia giganteum and West Point var., Leeanum Corona and Clinkaberryanum, villosum auriferum, Baron Schröder, triumphans and Tracyanum. A Cultural Commendation was granted to a specimen of C. Minos Youngii.

The Liverpool Orchid Company, Gateacre, were awarded a Silver Medal for a mixed group of Odontoglossums in variety, Cattleyas and hybrids, including fine varieties of C. Portia, with Cypripedium triumphans, Charlesworthii, insigne Sanderæ, and several forms of Leeanum.

Messrs. Sander & Sons, St. Albans, staged some choice Cypripediums, including the fine Leeanum Gratrixiæ, Actæus, brugense, Troilus superbum and Invincible, Leeanum Hercules and Golden Glory, Euryades Sander's var., and zebrinum.

Messrs. Charlesworth & Co., Haywards Heath, staged a very fine form of Odontoglossum eximium and Cypripedium Hitchinsiæ Westonbirt var.

Messrs. A. J. Keeling & Sons, Bradford, staged Cypripediums Leeanum Corona, keighleyense, Bellona and a seedling.

Mr. D. McLeod sent a choice collection of cut flowers of Cypripediums.

### FIRST-CLASS CERTIFICATES.

Cypripedium Faire Maud (Fairrieanum × Maudiæ), a very pretty

flower, showing the parentage on both sides, and C. Pallas Athenæ (Elmireanum × Æson giganteum), a noble flower, from W. R. Lee, Esq.

Cypripedium Reginald Young (Elmireanum × insigne Harefield Hall var.), a good large well marked flower, from H. J. Bromilow, Esq.

AWARDS OF MERIT.

Cypripedium Juno var. Hebencea, a very good variety, from J. J. Holden, Esq.

Odontoglossum eximium Plumpton Hall var., a good well coloured round flower, and Cattleya Trianæ var. Britannia, a magnificent flower. with well-set broad lip and deep colour, from W. R. Lee, Esq.

Cypripedium Mrs. Mabel Waring (insigne Harefield Hall var. × Troilus), a fine flower in the way of C. Dreadnought, from R. le Doux, Esq.

Cypripedium Leeanum var. Frederick Arnold, a good form, with large round well spotted dorsal sepal, from F. A. Hindley, Esq.

Brassocatlælia Wotan (B.-c. Leemanniæ × L.-c. callistoglossa), a truly noble flower, the Leemanniæ parent predominating, from J. Leemann, Esq.

Odontoglossum crispum var. Reine Blanche, a very fine round flower, 3½ inches across, from R. Ashworth, Esq.

Odontoglossum Ruby King, a good flower, of almost solid colour, with dark lip, a very distinct variety, from A. Warburton, Esq.

Cypripedium viridissimum (villosum auriferum × aureum virginale), a bright flower, following auriferum in form and habit of growth, from Mr. W. Shackleton.

Exhibitors are requested to note that in the staging of competitive groups cut flowers and fronds of ferns will not be allowed. All plants exhibited at the meetings to be shewn to the best advantage, and all paper to be removed from flowers. From this date to February 22nd inclusive, the meetings will close at 3.30 p.m.

## ORCHIDS IN SEASON.

SEVERAL interesting and beautiful Orchids are sent from the collection of J. J. Neale, Esq., Penarth, by Mr. Haddon. They include a three-flowered spike of the charming Masdevallia tovarensis, with M. Veitchiana, triangularis, polysticta and melanopus, the handsome Maxillaria venusta, M. grandiflora, and M. variabilis, Restrepia maculata, Sophronitis grandiflora and its very distinct hybrid Epiphronitis Veitchii, a spike of the brilliant Cochlioda vulcanica, the clear yellow Læliocattleya Lydia, L.-c. Nysa, Epidendrum polybulbon and odoratissimum, Listrostachys vesicata, Angræcum superbum, Dendrobium Dearei, Brassavola nodosa, Acampe pachyglossa, with winter-flowering Cattleyas, Cypripedium Rossetti, C. insigne Sanderæ and Harefield Hall var., and a few others. They serve to show what a varied selection is in bloom in the collection at mid-winter.

A flower of the pretty little Læliocattleya Amelia, in which the characters of Lælia cinnabarina and Cattleya intermedia are well combined, is sent from the collection of Henry R. Sterrett, Esq., Houslow. It is from a seedling plant, and is not yet fully developed. Mr. Sterrett remarks that he has now a plant of Cypripedium tonsum in flower bearing a twin-flowered scape, and the dorsal sepal is flushed with rose, a somewhat unusual character.

A flower of a fine hybrid Cypripedium is sent by Messrs. James Veitch & Sons, Langley, Slough, which has been produced by a small plant derived from C. Leeanum Clinkaberryanum × Arthurianum. It is fairly intermediate in general character, but on the whole most resembles the Leeanum parent in shape. The dorsal sepal is large, very densely dotted with brown on a green ground, and the margin white, while the base of the broad, undulate petals is also much spotted. It should develop into a fine thing. There are two hybrids from C. Leeanum and Arthurianum, namely, C. Mary Lee, which received an Award of Merit from the R.H.S. in November, 1893, and C. Jamesonianum, which flowered in 1896.

Another fine flower is sent from the collection of O. O. Wrigley, Esq., Bridge Hall, Bury, by Mr. Rogers, who remarks that it was derived from Cypripedium Sallieri virens (a seedling raised in the collection) and C. Euryades, Low's var. It has taken much of the C. villosum shape, and has a bright emerald green dorsal sepal, margined with white, and bearing some large brown blotches on the disc, while the base of the petals is also spotted, and the lip bright brown.

## ORCHID NOTES AND NEWS.

Two meetings of the Royal Horticultural Society will be held at the Royal Horticultural Hall, Vincent Square, Westminster, during February, on the 6th and 20th, when the Orchid Committee will meet at the usual hour, 12 o'clock noon. The Annual General Meeting will be held on February 13th, but there will be no Show or meeting of the Committee on this date.

The Manchester and North of England Orchid Society will hold meetings at the Coal Exchange, Manchester, on February 8th and 22nd. The Committee meets at noon, and the exhibits are open to inspection of members and the public from 1 to 3.30 p.m.

THE INTERNATIONAL HORTICULTURAL EXHIBITION.—His Majesty King George V. has announced to the Directors of the Royal International Horticultural Exhibition, through Lt.-Col. Sir George Holford, K.C.V.O., his intention to open the Royal International Horticultural Exhibition on May 22nd, at 12 noon.

HONOUR FOR COL. PRAIN.—Lt.-Col. David Prain, C.I.E., F.R.S., Director of the Royal Botanical Gardens, Kew, has been appointed Companion of the Most Distinguished Order of St. Michael and St. George.

Entries for the Royal International Horticultural Exhibition, to be held in the grounds of the Royal Hospital, Chelsea, from May 22nd to 30th, are said to have been so numerous that a great deal of additional tent accommodation is required. It is estimated that the exhibits of Orchids from all parts of the world will require a tent 300 feet long by 70 feet wide.

## ORCHID PORTRAITS.

BRASSOCATTLEYA MARONIÆ.—*Garden*, 1912, p. 21, with fig.

CALANTHE COOKSONIÆ.—*Journ. Hort.*, 1912, i. p. 71, with fig.

CYMBIDIUM SCHLEGELI.—*Gard. Mag.*, 1912, pp. 79, 80, with fig.

CYPRIPEDIUM CHARLESWORTHII.—*Journ. Hort.*. 1912, i. p. 49, with fig.

CYPRIPEDIUM LEEANUM GIGANTEUM.—*Journ. Hort.*, 1912, i. p. 29, with fig.

CYPRIPEDIUM NELLIE.—*Journ. Hort.*, 1912, i. p. 49, with fig.

CYPRIPEDIUM SPECTABILE.—*Gard. Chron.*, 1912, i. p. 18, fig. 13.

CYPRIPEDIUM TONSUM.—*Journ. Hort.*, 1912, i. p. 49, with fig.

DISA LUGENS.—*Bot. Mag.*, t. 8415.

LÆLIOCATTLEYA BELLA ALBA, DELL VAR.—*Gard. Mag.*, 1912, pp. 36, 45, with fig.

LÆLIOCATTLEYA MRS. W. HOPKINS.—*Gard. Mag.*, 1912, pp. 23, 36, with fig.

LÆLIOCATTLEYA PRINCE OF ORANGE.—*Gard. Mag.*, 1912, p. 5, with fig.

ODONTOGLOSSUM THAIS.—*Gard. Mag.*, 1912, p. 6, with fig.

ZYGOPETALUM MACKAYI.—*Journ. Hort.*, 1912, i. p. 3, with fig.

## ANSWERS TO CORRESPONDENTS.

[*Orchids are named and questions answered here as far as possible. Correspondents are requested to give the native country or parentage of plants sent. An* ADDRESSED *postcard must be sent if a reply by post is desired (abroad, reply postcards should be used) Subjects of special interest will be dealt with in the body of the work.*]

A.J.K.—Dendrobium speciosum, Sm., an Australian species.

C.M.—Vanda Charlesworthii, a rare natural hybrid between V. cœrulea and V. Bensonii, which has appeared on two or three previous occasions.

H.H.—**Bulbophyllum Pechei, Bull, a Burmese species.**
Photographs received, with thanks. C. & Co.

We have received from the Agricultural & Horticultural Associatior, 92, Long Acre, London, E.C., a copy of the pamphlet, *Small Greenhouses*, by T. W. Sanders, F.L.S. Price one penny, and well illustrated.

ERRATUM.—**The words "nearly formed," at p. 7 of our last issue, line 10 from the bottom, should read "newly formed," a misprint which should be corrected, as it obscures the meaning of the sentence.**

VOL. XX., No. 231. THE MARCH, 1912.

# ORCHID REVIEW

Edited by R. ALLEN ROLFE, A.L.S.

Contents.


| | PAGE | | PAGE |
|---|---|---|---|
| Amateur's Collection ... ... ... | 69 | Our Note Book ... ... ... ... | 65 |
| Answers to Correspondents ... ... | 96 | R. H. S. Orchid Committee ... ... | 74 |
| Calendar of Operations for March ... ... | 81 | Societies— | 84 |
| Chondropetalum Fletcheri ... ... ... | 73 | Manchester and North of England Orchid ... ... ... ... ... | 88 |
| Fertilisation and Secondary hybrids ... | 75 | Royal Horticultural ... ... ... | 84 |
| Listrostachys bistorta ... ... ... | 79 | Zygopetalum Mackayi var. Charlesworthii | 72 |
| Mrs. G. B. Wilson's Collection ... ... | 68 | | |
| Odontoglossum armainvillierense var. Johnsonii... ... ... ... ... | 80 | ILLUSTRATIONS. | |
| Odontoglossum crispum, sporting in ... | 71 | | |
| Orchid Notes and News ... ... ... | 95 | Chondropetalum Fletcheri ... ... ... | 73 |
| Orchid Portraits ... ... ... ... | 96 | Odontoglossum armainvillierense var. Johnsonii... ... ... ... ... | 80 |
| Orchids in season ... ... ... ... | 78 | Zygopetalum Mackayi var. Charlesworthii | 72 |
| Orchids of Jamaica ... ... ... ... | 76 | | |


**PRICE SIXPENCE MONTHLY.** POST FREE **7**/- PER ANNUM—SEE OVERLEAF.


# SANDER & SONS.

We receive fortnightly fresh consignments of the best

**OSMUNDA REGALIS FIBRE**

from our own freehold lands, situated in the best Osmunda producing territory of the United States of America. Price per bushel, **2/6**; per bag, **8/6.**

ROYAL WARRANT HOLDERS TO THE KING.

# Bull's Fumigating Compound.

No, 1 Bottle, **20s.**; ½ Gallon, **63s.**

THE MOST EFFICIENT AND ECONOMICAL.

ONCE TRIED BY AN ORCHID GROWER IS ALWAYS USED.

Sole Manufacturers:

## William Bull & Sons,

KING'S ROAD, CHELSEA, LONDON.

# NOTICES

The ORCHID REVIEW is published regularly at the beginning of each month price 6d. net. Annual Subscription, post free, 7/-, payable in advance.

Volumes I. to XIX. can be supplied unbound at 6/-, or bound in cloth, 7/6, postage extra.—Cost of postage: book post, 9d. per volume; parcel post within the United Kingdom only, 5d. per single volume (series by weight).

Also cases for binding either volume at 1/6 each, post free throughout the postal union.

The ORCHID STUD-BOOK. By R. A. Rolfe and C. C. Hurst. By Parcel Post, 7/11. Abroad, by Book Post, 8/3.

All Subscriptions, Advertisements, Communications and Books for review, should be addressed:—The **Editor of the Orchid Review**, Lawn Crescent, Kew.

Cheques and Postal Orders (sent as above) should be made payable to FRANK LESLIE & Co., and, to ensure safety in transit, should be crossed "& Co."

*Agents for copies supplied through the Trade—*

**MARSHALL BROTHERS, Ltd.**, KESWICK HOUSE, PATERNOSTER ROW, LONDON, E.C.

## SCALE OF CHARGES FOR ADVERTISEMENTS.

| | £ | s. | d. |
|---|---|---|---|
| Five lines and under in column ... | 0 | 2 | 6 |
| Per line after ... ... ... ... | 0 | 0 | 6 |
| One-eighth column... ... ... ... | 0 | 4 | 0 |
| Quarter column or eighth page ... | 0 | 7 | 0 |
| Half column or quarter page ... | 0 | 12 | 0 |
| One column or half page ... ... | 1 | 2 | 6 |
| Whole page ... ... ... ... ... | 2 | 0 | 0 |

The Editor invites communications on interesting subjects (which should be written on one side of the paper only), also portraits, &c., of rarities.

Advertisements and late news should be received not later than the 24th of the month.


# CHARLESWORTH & Co.,

ORCHID RAISERS, GROWERS,
IMPORTERS AND EXPORTERS,

# HAYWARDS HEATH,

**SUSSEX,**

Invite their Patrons and Friends to pay them a visit of inspection at their New Establishment,

——————where may be seen the——————

## Finest Trade Collection of Orchids In Europe.

A Conveyance will be at the Railway Station to meet Visitors, upon notification being kindly given.

CONTINENTAL BRANCH—RUE GERARD, BRUSSELS.

Catalogue Post Free.

Telegrams:—Charlesworths, Haywards Heath.

Please Address—CHARLESWORTH & Co., Haywards Heath, Sussex.

# THE ORCHID REVIEW.

VOL. XX.] *MARCH*, 1912. [No. 231.

## OUR NOTE BOOK.

THE question of Orchid Awards cropped up again at the Annual General Meeting of the R.H.S. A Fellow pointed out that the First-class Certificate was seldom given to what were called "florists' flowers," and then generally after an Award of Merit had been obtained first. But with regard to Orchids it was different, for out of forty-five First-class Certificates awarded last year, thirty-seven were given to Orchids, and he drew the inference that there was something amiss in relation to the awards given by the different Committees. We should rather regard it as affording an indication of the enormous progress that is being made in the improvement of these beautiful plants, and considering the constant stream of novelties of sterling merit that appear at the meetings the wonder is that the number of those awards is not greater.

---

A reference to Plant Nomenclature appears in the Report of the Council of the R.H.S. for 1911. The Rules adopted by the Brussels Horticultural Congress having been published, the Standing Committee are requested to adopt them in the Society's work. Fellows, and especially Exhibitors, are asked to make themselves familiar with these rules for naming their plants, and to act on their guidance, as by so doing they will materially help to clear up that confusion and duplication of names which, not only causes so much difficulty in horticultural work, but is also productive of not a little disappointment and soreness to buyers.

---

We hope that both Committees and Exhibitors will bear the point in mind, for much of the confusion could be avoided if a little more care was taken at the outset. For example, Mr. Crawshay writes to point out that the hybrid between Odontoglossum crispum and O. eximium, which was recently certificated by the Manchester Orchid Society, under the name of O. Delhi, and is figured at page 44 of our last issue, was certificated by them a few months earlier as O. Orpheus, while at the Temple Show in 1910 the same hybrid was certificated by the R.H.S. as O. Promereus. The latter name, however, is erroneous, and requires to be amended to

O. promerens (*deserving*). The mistake arose through a misreading of the entry. He finally remarks that both O. Orpheus and O. Delhi should be relegated to their place as synonyms or varieties of O. promerens. The change, we believe, is in accordance with the Rules of Nomenclature, which permit the correction of an obvious mistake.

---

A matter which we regard with considerable misgiving is the growing number of hybrids of unrecorded parentage which are now receiving certificates, and the difficulty of afterwards referring them to their correct position. Some of them—we would not say all—are only varieties of existing hybrids, and we are assured that some which have been certificated under distinct names are seedlings out of the same capsule, but so remarkably diverse that they cannot well be brought under the same name. It is the history of Cypripedium aureum over again, but the fact that in that case the parentage was known enabled the difficulty to be got over. Had the parentage been lost some of them would never have been referred to their true position. When some of the seedlings from the same capsule resemble other hybrids more than their own brothers and sisters one begins to realise the importance of keeping records. And it is this more than anything else which is causing hybrids of complex parentage to be dealt with as florists' flowers.

---

Our notes on the great Cypripedium question (page 1) have elicited some interesting replies, and one correspondent, who is particularly glad to find that the necessity no longer exists of using the name Paphiopedilum for the Asiatic species, and who admits the reasonableness of the view that the four genera are distinct botanically, asks whether it is not possible for garden purposes to continue the use of the familiar name Cypripedium for the whole of the cultivated species, leaving botanists to take their own course in their botanical writings. He suggests that this would be the simplest way out of the difficulty. It may be so, and if horticulturists should in the future feel that another Tower of Babel is being set up it will probably be no more difficult to accept the change then than it is now. The name Cypripedium seems as great a favourite in gardens as the plants, and the loss of the one equal to the banishment of the other. Perhaps if the hardy species were as generally cultivated as the tropical ones, and all were grown in the same house, the difficulty would not arise, for the two groups are as distinct as are Pleione and Cœlogyne, which brings us to another little matter.

---

A writer in the *Journal of Horticulture*, signing himself "Orchidist," makes some comments (page 100) on the changing of well-known names,

remarking that it was not the law of "Paul Priority" that caused the untimely end of Paphiopedilum, but just common sense, a fine virtue which kept the name Cypripedium in general use. He also says that we shall never see Cordula employed in the place of Cypripedium. But such a change was never proposed, for their still remain thirty species of Cypripedium—or Cypripedilum, if one were permitted to write the word correctly. Perhaps, if someone were to name a genus, or species, after our critic, omitting a single letter which changed the whole meaning of the name, his views about common sense might be expressed differently. Our critic omits all the essential facts of the article, at the same time indulging in a general charge of juggling—"Botanists have juggled with Pleione and Cœlogyne, Cattleya labiata and its varieties," &c.—which we would remind him is calculated to give his readers an incorrect impression of the matter under discussion, to say the very least.

---

A correspondent writes to us from abroad suggesting that we should devote more space to the biological side of Orchidology, remarking that there are many matters which are of the greatest interest and even importance to cultivators, for example, Fungus-cooperation in Orchid roots, and the peculiar conditions under which certain Orchids grow, a knowledge of which is useful in their successful culture. Also notes of the Orchids of different countries, when papers respecting them appear in botanical journals. And he suggests that space for this might be found by curtailing to some extent the reports of the different Shows, in which there appears to be a great deal of repetition, from group to group and from meeting to meeting. One even wearies of reading that the most beautiful of Orchids appeared in half the groups at any particular Show.

---

We may point out in reply that the reports are already enormously condensed, and that nearly all the meetings are Shows nowadays. One cannot compress an account of some of the fine groups which appear into half a dozen lines without omitting most of the detail, though this often has to be done, and as a matter of fact new hybrids frequently appear at meetings which, for a variety of reasons, are not recorded. A great deal of interest is taken in these reports, and probably exhibitors think that the limit of compression has already been reached in some cases. The suggestions, however, shall not be lost sight of, and articles of the kind mentioned are constantly appearing in our pages.

---

By an unfortunate error, at page 35, the printer made us speak of the arrival of an "instinct," when "insect" was intended. And the last sentence should read, "And species are adaptations."

## MRS. G. B. WILSON'S COLLECTION.

UNDER the title "Fortunate is the Orchid Hunter Who Emerges from the Jungle Alive," the *New York Daily Tribune*, in its issue of January 28th last, publishes an illustrated article on the fine Orchid Collection of Mrs. G. B. Wilson, of Philadelphia, the illustrations including a photograph of Mrs. Wilson, of her residence and block of Orchid houses, the interior of a Cypripedium house, of three Orchids from the collection, and of two phases of Orchid collecting in South America. It contains some interesting and amusing details, but is rather the work of the newspaper correspondent than of the expert in Orchidology. For example, he says:—"In one of the East Indian houses is a specimen of the Phalænopsis, or great white moth Orchid, called the Harrietta. It is the only example of this hybrid plant in existence, and is priceless." This appears to be the one figured as "an Orchid for which Mrs. Wilson refused $2000," but the figure represents a small plant of Phalænopsis Aphrodite or P. amabilis with five flowers, not the unique P. Harriettæ, raised by Messrs. Veitch, from P. amabilis and P. violacea, which was obtained at the sale of the Corning collection. This is apparently the "Orchid variety that is the envy and wonder of enthusiasts the world over," and which "lovers of this rare flower come from all countries to examine and admire."

The history of Cypripedium Fairrieanum is graphic. "Many years ago this wonderful Orchid was discovered by an English collector in India. He brought four of the plants to England, and they caused a sensation there among collectors. The finder was urged to tell where he had discovered this beautiful Orchid, but no inducement could make him betray the hiding place of the treasure. All four of the plants he had brought to England died, but the discoverer kept his secret, always intending to go back to India and gather more specimens. Death intervened, and the secret of the hiding place of the rare Orchid was lost. For more than forty years the search for the plant was kept up assiduously, Orchid hunters examining every nook and corner of the country where specimens might be lurking. No one found a single specimen. At last a prize of a thousand pounds ($5000) was offered by English horticulturists to any person who might rediscover the variety. Under the stimulus of this reward the waning energies of the hunters became galvanised into renewed activity, and at last, about six years ago, a collector won the prize, finding the plant in the interior of India, near the Burmese border. There are only two specimens in this country. They are priceless."

The stories of Orchid collecting are full of moving incidents, by land and water, but we cannot follow them through their picturesque details. An account of the collection would be interesting.

# THE AMATEUR'S COLLECTION.

By C. ALWYN HARRISON, F.R.H.S.

## COOL HOUSE.

DURING this and the following month an average temperature of 55 to 60° Fahr. should be maintained during the day, but with sun heat the thermometer may be allowed to run up higher with decided benefit to the inmates, providing it be accompanied by plenty of atmospheric moisture. At night 55° Fahr. should be maintained, with as little variation as possible. More air can now be admitted, but cold windy days present much difficulty to the cultivator. Cold draughts must be avoided, and it will generally be found advisable only to open ventilators on the shady side of the house.

The general remarks upon watering in last month's article should be followed. Damping down may be done more frequently now, owing to the increased warmth. Shading is usually not yet needed, but should the sun shine with force directly upon the plants the blind may be lowered for a few hours, but I am a firm believer in plenty of light for Cool Orchids.

Odontoglossums can now be repotted, if they need it, and this operation may be performed at any time between now and the middle of October, but winter potting requires much careful after-treatment. The only time when this may be done is when the new lead is about an inch in length. Remove the plant from the old receptacle and shake off the crocks and sour soil. The fresh pot should then be filled three parts full of clean broken potsherds, and the plant placed on these, and well to one side, so as to allow of future growth being made. For compost use a mixture of osmunda and polypodium fibres, some sphagnum moss and a handful of well-rotted oak leaves. Before placing the plant in the new pot cut away all dead roots, decayed bulbs and leaves. Be careful to have the base of the pseudobulbs on a level with the rim of the pot, or at least only slightly below. After the operation of repotting, the plants must be kept drier until a fresh start is made. Should any Odontiodas be possessed, these may be treated in the same manner, only no oak leaves should be employed in the compost.

Epidendrum vitellinum majus may need fresh soil, and should receive similar treatment. Place this plant well above the rim of the pot, or it may easily rot.

## CATTLEYA HOUSE.

The average temperatures for this month should be as follows: 65 to 75° Fahr. by day, the latter figure with sun heat, and 60 to 65° Fahr. by night. For the inmates of this house the degree of warmth maintained at night, and on sunless days, should be as even as possible. Owing to higher temperatures being maintained in this house than in the preceding, less air

can naturally be admitted, but the atmosphere of the house should always feel fresh, and this end may be attained by opening the bottom ventilators whenever the thermometer registers slightly above the lowest figure for the day (65° Fahr.). When the sun warms the air about midday, the roof ventilators can generally be opened slightly, and the amount of air thus given can be gradually increased in proportion as the thermometer rises. The house should be well damped down, once at 9.30 and again at 3 p.m. Paths, staging and pots should be thoroughly wetted, but do not yet syringe the plants overhead. Providing plenty of atmospheric moisture be maintained, the plants in this structure will require less water at the roots than those of the Cool house.

The main occupants of this house will be Cattleyas, Lælias, and their many hybrids. At this season water all growing plants about three times a week, those in flower and bud usually four times, but once a week will be ample for any which are dormant. If cold and dull weather prevail, twice a week will often suffice for both growing and flowering plants. If you are in doubt as to whether an Orchid needs water or not, leave it until the next time, and, as remarked last month on watering Cool house Orchids, always give enough at each application to thoroughly wet the *whole* compost.

Vanda cœrulea, Angræcum sesquipedale, and other Vandeous Orchids possessing no pseudobulbs must have more water, if in full growth about three times weekly.

Dendrobiums passing out of flower may receive water as advised for Cattleyas. If any need repotting, this should be attended to at once. Knock the plants out of the old pots, cut off all dead roots, and all weak bulbs may be removed. Three old bulbs can be left to support the new growth, but above this number they tend to exhaust nourishment from the fresh lead, and consequently are detrimental. For compost use a mixture of osmunda fibre and sphagnum moss, and be careful not to bury the plant too deeply, nor to pot it too lightly, so that it sways about. A few sticks tied to the pseudobulbs may be employed to hasten a good hold being taken on the compost.

## SUGGESTED ADDITIONS.

ODONTOGLOSSUM WILCKEANUM.—For an Amateur's Cool house, this magnificent hybrid ranks as one of the best. Occurring wild, and having also been raised by hand, it can consequently be procured at a comparatively low price. The flowers are of good size, and freely borne on long arching spikes. The sepals and petals are usually cream or yellow, but, in all cases, more or less blotched with reddish brown. The lip is similarly coloured, with a handsome crest. There are numerous fine varieties of this Orchid.

SOPHRONITIS GRANDIFLORA.—This little gem is almost too well known

to need description, but in case any reader's collection should lack a plant, a short description may be opportune. It is a dwarf grower, seldom exceeding four inches in height, and produces solitary blooms, about one and a half inches in diameter and of a beautiful vermilion hue. The lip is also stained with yellow. A point in favour of this brilliant Orchid is that it is usually in bloom from October till March or April.

ANGRÆCUM SESQUIPEDALE.—No collection should lack a representative of this singular and beautiful Orchid. It should be given a position at the warmest end of the house, where, even when not in bloom, its handsome leaves add an air of distinctiveness to the collection. On account of the shape of the blossoms, this plant is often known as the "Comet Orchid." They are large, ivory white, and thick in texture. The quaintness of the flower lies in the long spur, which sometimes reaches a foot in length. December and January is the usual season of blossoming, and the plant is not difficult to grow in a suitable house.

## SPORTING IN ODONTOGLOSSUM CRISPUM.

A REMARKABLE freak or sport of Odontoglossum crispum has appeared in the collection of W. Waters Butler, Esq., Southfield, Edgbaston. Mr. Butler writes that a plant of O. crispum var. Gracie has produced a good spike, bearing two kinds of flowers in about equal proportions, and a flower of each kind is sent, showing a remarkable diversity of character. O. crispum Gracie has a clear white ground colour, with clusters of four to six round cinnabar-brown spots about the centre of the segments. The latter are rather broad and undulate, the whole flower being unmistakably of the Velez type. In the sport the markings on the sepals are broken up into very numerous spots and dots, which extend almost from the base to the apex, those of the other segments remaining normal, giving the flower a very distinct and remarkable appearance. The question naturally arises as to the cause of this sporting, and here speculation only is possible, but we should suggest it to be a case of partial reversion. It is generally agreed that the so-called "spotted crispums" are of hybrid origin, and the shape and general details of the present variety suggest an affinity with, and possibly a descent from O. Fascinator. Indeed forms occur in the Velez district which one hardly knows whether to refer to the polymorphic O. Adrianæ, to O. Fascinator, or to O. crispum itself, and these perplexing intermediate forms, in which the influence of O. Hunnewellianum is more or less apparent, suggest crossing and recrossing through countless generations. The tendency to sport among hybrids is well-known, and it will be interesting to watch the subsequent behaviour of this particular plant. We would suggest that a flower should be self-fertilised, as further evidence of reversion might appear among the seedlings.—R.A.R.

## ZYGOPETALUM MACKAYI VAR. CHARLESWORTHII.

A VERY beautiful albino was exhibited by Messrs. Charlesworth & Co., Haywards Heath, at the R.H.S. meeting held on January 23rd last, under the name of Zygopetalum Mackayi var. Charlesworthii, to which an Award of Merit was given. The sepals aud petals are very pale green, and the

Fig. 11. ZYGOPETALUM MACKAYI VAR. CHARLESWORTHII.

lip pure white; both the brown markings of the former and the purple of the latter being completely absent. It was imported from Brazil. The species was described some 85 years ago, and we believe this to be the first albino which has appeared. The photograph here reproduced was kindly sent by Messrs. Charlesworth & Co.

## CHONDROPETALUM FLETCHERI.

THE "false" hybrids of *Zygopetalum* were mentioned last month (page 37), also the remarkable Chondropetalum Fletcheri, and it may be interesting to reproduce the portrait of the latter in connection with that of the albino of *Zygopetalum* Mackayi given on the preceding page. The record is that this hybrid was raised from *Z.* Mackayi and Chondrorhyncha Chestertonii, but we believe that the *Zygopetalum* parent was actually *Z.* intermedium, a

Fig. 12. CHONDROPETALUM FLETCHERI.

larger-flowered species which has generally usurped the name of *Z.* Mackayi in gardens. It will be seen that the Chrondrorhyncha character, both of habit and flower, is lost, or at all events very successfully hidden, yet the *Zygopetalum* parent has not been actually reproduced, showing that some modifying influence has been at work, and thus it may be called a case of dominance. The loss of the characteristic blue markings of the lip is, however, the most obvious difference. Several very interesting biological

problems are involved in the behavior of this remarkable plant, as may be seen in an article in our last volume (pp. 70, 71), and we should particularly like to see the cross repeated, making the Chrondrorhyncha the seed parent, also to see the hybrid again crossed with the pollen of Chondrorhyncha Chestertonii.

## R.H.S. ORCHID COMMITTEE.

THE following constitute the Orchid Committee of the Royal Horticultural Society for the current year. New members are indicated thus* :—

FOWLER, J. GURNEY, Glebelands, South Woodford, *Chairman.*

VEITCH, HARRY J., V.M.H., F.L.S., 34, Redcliffe Gardens, S.W., *Vice-Chairman.*

HOLFORD, Lieut.-Col. Sir GEORGE, K.C.V.O., C.I.E., Westonbirt, Tetbury, Glos., *Vice-Chairman.*

COLMAN, Sir JEREMIAH, Bart., V.M.H., Gatton Park, Reigate, *Vice-Chairman.*

O'BRIEN, JAMES, V.M.H., Marian, Harrow-on-the-Hill, *Hon. Secretary.*

ALEXANDER, H. G., Westonbirt Gardens, Tetbury.

ARMSTRONG, T., Sandhurst Park, Tunbridge Wells.

ASHWORTH, ELIJAH, Harefield Hall, Wilmslow, Cheshire.

BOLTON, W., Wilderspool, Warrington.

BOUND, W. P., 112, Station Road, Redhill.

BROOMAN-WHITE, R., Arddarroch, Garelochhead, N.B.

BUTLER, W. WATERS, Southfield, Norfolk Road, Edgbaston

CHAPMAN, H. J., Oakwood Gardens, Wylam-on-Tyne.

CHARLESWORTH, J., Lyoth House, Haywards Heath.

COBB, W., Normanhurst, Rusper, Horsham.

COOKSON, CLIVE, Oakwood, Wylam-on-Tyne.

CRAWSHAY, DE BARRI, Rosefield, Sevenoaks.

CURTIS, C. H., 2, Adelaide Road, Brentford, Middlesex.

CYPHER, JAMES, V.M.H., Queen's Road, Cheltenham.

DYE, A., Tring Park Gardens, Tring.

HANBURY, F. J., F.L.S., Brockhurst, East Grinstead.

HATCHER, W. H., Rawdon, Leeds.

LOW, STUART H., Bush Hill Park, Enfield.

LUCAS, C. J., Warnham Court, Horsham.

MCBEAN, A. A., Cooksbridge, Sussex.

MOORE, Sir F. W., M.A., V.M.H., R. Bot. Gdns., Glasnevin, Dublin.

MOORE, G. F., Chardwar, Bourton-on-the-Water, Glos.

*MOSS, J. S., Waltham Cross.

OGILVIE, F. MENTEITH, 72, Woodstock Road, Oxford.

POTTER, J. WILSON, 219, Ashley Gardens, S.W.

*ROLFE, R. A., A.L.S., 12, Lawn Crescent, Kew.
SANDER, F., V.M.H., St. Albans.
SHILL, J. E., The Dell, Englefield Green.
THOMPSON, W., Walton Grange, Stone, Staffs.
THWAITES, R. G., 23, Christchurch Road, Streatham, S.W.
WHITE, W. H., Burford Lodge Gardens, Dorking.
WILSON, GURNEY, F.L.S., Glenthorne, Haywards Heath.

## FERTILISATION AND SECONDARY HYBRIDS.

(*Concluded from page* 38).

HAVING shown the effect of pollination on the development of the ovary and ovules of an Orchid, and its essential distinctness from the process of fertilisation, we may now consider some of the phenomena of hybridisation. Hybrids are the result of uniting individuals belonging to distinct species, and are generally more or less intermediate between their two parents, and distinct from both. Species may be said to reproduce themselves true from seed—at all events as far as their specific characters are concerned—and this is because the two parents are alike, which sufficiently explains why the term hybridisation cannot properly be applied to the union of forms of the same species. Hybridisation implies the union of the unlike, and the production of forms distinct from either parent, hence the term "False hybrid" when only one parent—generally the mother—is reproduced.

Hybrids, therefore, combine two distinct ancestries, and the result is a compromise; an organism more or less intermediate between the parents, or at least combining their characters in a variety of ways. Where the parents are nearly allied the hybrid can generally be described as intermediate, but when very distinct species are crossed the mosaic character is usually more apparent. In such cases the hybrid may resemble one parent in certain features and the second parent in others, especially if one of them possesses some anomalous character, as in the case of Cattleya citrina, for example. If the two parents possess distinct hairs or other epidermal appendages, the two kinds may sometimes be found side by side in the hybrid. But among primary hybrids, in whatever way the compromise is effected, the batch of seedlings, or even successive batches raised from the same two species, are generally fairly uniform in character, so that their common origin is easily recognised.

In the case of secondary and more complex hybrids a very different condition of things is seen. A great amount of variation is now apparent, and seedlings out of the same capsule are often so diverse that one might suspect some of them to have come from different crosses. If two species, A and B, are intercrossed, and the hybrid AB be then united with a third species, C, some of the resulting seedlings will resemble the hybrid AC, and

others BC (assuming these hybrids to have also been raised), while others will show varying combinations of the characters of the three original species, as in the well-known case of Cypripedium aureum. Reversion now becomes more or less apparent, some of the forms most resembling their grandparents, as was remarked by Mr. Seden of Læliocattleya fausta, the first secondary hybrid raised by him. When primary hybrids are self-fertilised partial reversion to the original parent species is also seen, as in the case of Epidendrum kewense. In the case of a hybrid recrossed with one of its original parents partial, if not complete reversion, is not at all uncommon, and it is believed that this is the cause of the many anomalous features seen in imported Odontoglossum crispum, in some of which what has been termed the "remains of hybridity" are apparent. Parallel cases have already appeared among artificially-raised Odontoglossums.

The phenomena of diversity among secondary and more complex hybrids are due to the dissociation of mixed or hybrid character, as the result of incompatibility. A hybrid is a mosaic, and its reproductive cells, pollen and ovules, are not uniform in composition like those of species, but contain the hereditary influences of the original parent species in varying proportions. If dissociation were complete and similar cells united to form the new individual, the result would be complete reversion to that particular parent. Complete reversion, however, seldom takes place—at all events in a single generation—but partial reversion is one of the commonest phenomena among secondary hybrids, and it arises from dissociation in the sexual cells which unite to form the new generation. It will thus be seen that there is no possible method of controlling this development and of securing uniformly good results. The only method is to select the best possible parents for each succeeding generation, avoiding combinations of diverse characters which experience has shown leads to undesirable results. There is no royal road to success.

## ORCHIDS OF JAMAICA.

An account of the Orchids met with by Dr. Shafer in his recent trip to Panama was given last month (pp. 46, 47). On leaving Panama he crossed to the Island of Jamaica, where he also found a number of interesting Orchids. During a drive to Castleton Gardens, near Kingston, several plants of Oncidium luridum were obtained from trees growing by the roadside. On the steep slopes bordering the road, half hidden among tall grasses and ferns, several plants of Bletia purpurea (verecunda) and a single specimen of Habenaria monorrhiza were found, and, farther on, near Castleton, on a shady hillside, a few plants of the dark purple Bletia florida (Shepherdii), the only other Bletia found on the island.

Near Spanish Town, on low land near the coast, Broughtonia sanguinea

grows in abundance. The only other species of this genus known, B. domingensis, is confined to a limited area in the mountains above New Castle. Both are very desirable Orchids, the former having crimson-coloured flowers, the latter rosy lilac, blended with white.

A week was spent in collecting at the Cinchona plantations, at 5,000 feet altitude, and this place is fourteen miles by mountain trail from Gordon Town. Soon after leaving Gordon Town the first Orchids were found, Epidendrum cochleatum was the most common, often found on rocks, stony banks, and trees. E. fragrans was also abundant, and often in full bloom. The tall and stately E. verrucosum was also found in bloom. This is a bulbless Orchid with reed-like stems often four or five feet in height. The long diffuse panicles of yellowish green flowers, while not showy, were highly interesting. On the banks of the Yallahs River, growing on small trees, were found several fine plants of Oncidium luridum and Epidendrum difforme, usually known as E. umbellatum. From the Yallahs River it is a climb of 2,500 feet to Cinchona. Along the trail numerous Orchids were found, including a fine specimen of Schomburgkia Lyonsii, Isochilus linearis, and several species of Pleurothallis and Stelis.

From Cinchona several long excursions were made, including a tramp through the noted tree-fern forest. Epidendrums were common along these mountain trails, and many were collected, including E. ramosum, also Lepanthes divaricata and Dichæa glauca. Several stately plants of Phaius grandifolius were found growing in the rich humus on shady banks. This Orchid was introduced many years ago from China, its native habitat, and has become completely naturalised. It is now found in almost all parts of the island.

Among the Orchids of Jamaica the most beautiful are: Lælia monophylla, Schomburgkia Lyonsii, Broughtonia domingensis, Oncidium luridum, O. leuchochilum, O. pulchellum, and Arpophyllum giganteum. There are many peculiar facts regarding the Orchids of Jamaica of special interest to the student of plant distribution, and also problems relating to the origin of species that merit the attention of the Evolutionist.

The paper concludes with a short summary of the Orchids of Jamaica, from the recently published *Flora*. Of the sixty-one genera found on the island, twenty-eight are represented by a single species each. Of these the most interesting are: Lælia, Schomburgkia, Hormidium, Tetramicra, Calanthe, Phaius, Eulophia, Govenia, Lycaste, Trichopilia, *Zygopetalum*, and Harrisella. The last is named in honour of Mr. William Harris, who has contributed so much to our knowledge of the Orchids of Jamaica. One genus, Homalopetalum, is indigenous. Of the 194 species, seventy-three are not found elsewhere. Of the genus Lepanthes there are nineteen species, of which seventeen are endemic. These are small alpine plants,

and doubtless had their origin on this island. Of the 121 species not limited to the island, eighty-two species are found in Cuba. But this, it is remarked, can scarcely justify the theory of a former land-connection, for the sea lying between these islands has a depth of over 16,000 feet. To the west and south the depth of water exceeds 12,000 feet. The island presents every indication of volcanic formation, the underlying rocks being of igneous origin. The affinities with Cuba and other islands, as well as with Mexico and Central America, may be accounted for without postulating a former land-connection. Doubtless the large number of endemic plants may be attributed to the influence of isolation in preserving and elaborating the results of variation.

## ORCHIDS IN SEASON.

A SPRAY of a fine form of Odontoglossum Thompsonianum (Edwardii × crispum) is sent from the collection of W. Waters Butler, Esq., Southfield, Edgbaston. The flowers are almost uniformly deep brownish purple, with the usual yellow crest, while the segments are very undulate and the petals somewhat toothed.

CATTLEYA BUTLERI.—When this striking hybrid between Cattleya citrina and C. Schilleriana was described, at page 368 of our last volume, we requested to know what the plant was like. Mr. Butler writes: "The plant is of erect habit, and the bulbs and leaves very similar to C. citrina, but more of the colour of C. Schilleriana." It would appear that the pendulous habit of C. citrina is not reproduced in its hybrids.

A flower of a handsome hybrid Cypripedium, called C. Dr. Milligan, is sent from the collection of O. O. Wrigley, Esq., Bridge Hall, Bury, by Mr. Rogers, together with flowers of its two parents, C. nitens and C. Euryades, Low's var. It well combines the characters of the two parents, but is a decided improvement, having very large and distinct dark brown blotches on the dorsal sepal, which has a green ground and a white margin. The petals are brownish green, with many small brown spots at the base, and the lip is bright brown in front. Both shape and colour are good, and, as it it is only a small plant in a 3½ inch pot, it should develop into a fine thing when it becomes strong.

A six-flowered spike of Odontoglossum Electra is sent from the collection of E. F. Clark, Esq., Evershot, Dorset. It was raised from O. Andersonianum crossed with the pollen of O. triumphans, the cross being made in March, 1903, and is the first seedling Odontoglossum to flower in the collection. It is most like O. triumphans, especially in the lip, but the sepals and petals are narrower, and well blotched with brown on a deep yellow ground. Mr. Clark has one other plant, but a good many of the seedlings died.

A flower of a good pink form of Cymbidium insigne, with the sepals and petals closely and minutely dotted at the base, is sent from the collection of Mrs. Ardern, Bonis Hall, Prestbury. It is said to have been in the collection a good many years, bnt has not flowered previously.

A curious abnormal flower of Dendrobium nobile is sent from the collection of Edward Clements, Esq., Maidstone. The lip is absent, and the lateral sepals united into one, and thus the flower is dimerous with two petals and two opposite sepals. It is probably accidental, as other flowers on the stem are normal.

A flower of Cypripedium Romulus is sent from the collection of G. Hamilton-Smith, Esq., Finchley, by Mr. Coningsby, in which the lateral sepals are free and diverging. It is a seedling flowering for the first time, and whether the peculiarity will be constant remains to be seen. There is also a spike of the hybrid O. amabile Queen Alexandra crossed with a fine spotted crispum, which has reverted to what may be termed an ordinary rosy crispum. The batch has already shown great diversity, and forms were noted at pp. 159, 190, of our last volume. A spike of Dendrobium Kingianum album and a good dark form of Cymbidium Tracyanum are also sent.

A sweetly-scented and very pretty form of Odontoglossum Pescatorei is sent from the collection of J. B. H. Goodden, Esq., West Coker, Yeovil. There is a large purple blotch on the base of each sepal, and a small spot in the centre of each petal. It is said to have been more spotted last year. Another plant in the collection is also fragrant.

ODONTOGLOSSUM ELEGANTIUS.—It is interesting to note that the natural hybrid Odontoglossum elegantius, Rchb. f., has been raised artificially by Messrs. Sander & Sons, from O. Lindleyanum and O. Pescatorei. The plant was exhibited by them at the R.H.S. meeting held on February 22nd last. The flower is cream-coloured, with a light red-brown blotch at the base of each segment, and a similar blotch in front of the crest of the lip. It is an interesting confirmation.—R.A.R.

LISTROSTACHYS BISTORTA.—A plant introduced by Messrs. Mansell & Hatcher, Rawdon, E. Yorks, has been sent to Kew for determination, and proves to be identical with Listrostachys bistorta, Rolfe (*Fl. Trop. Afr.*, vii. p. 155), originally described from Lagos, and thus extends the area of the species somewhat. There was originally a little doubt as to whether the remarkable twist in the spur was a normal character, but it is also present in the recently introduced plant. The species is allied to the South African L. arcuata Rchb. f., but has longer, less fleshy leaves, and smaller flowers, with the remarkable bend in the spur, which recalls the appearance of a looper caterpillar. The species was originally described as Angræcum bistortum (*Rolfe in Kew Bulletin*, 1893, p. 65).—R.A.R.

## ODONTOGLOSSUM ARMAINVILLIERENSE VAR. JOHNSONII.

THE annexed figure represents a flower of a very beautiful Odontoglossum from the collection of J. J. Holden, Esq., Southport, which received a First-class Certificate from the Manchester and North of England Orchid Society on November 16th last. The spike was again exhibited on January 10th, after which part of it was sent to us by Mr. R. Johnson, after whom the variety is named. The parentage is said to be O. Pescatorei giganteum × O. crispum Franz Masereel, and there is a marked resemblance to the latter in the arrangement of the markings, particularly in what has been termed the eye-brow like band near the upper and lower margin of the petals, as may be seen by comparison with the figure of the

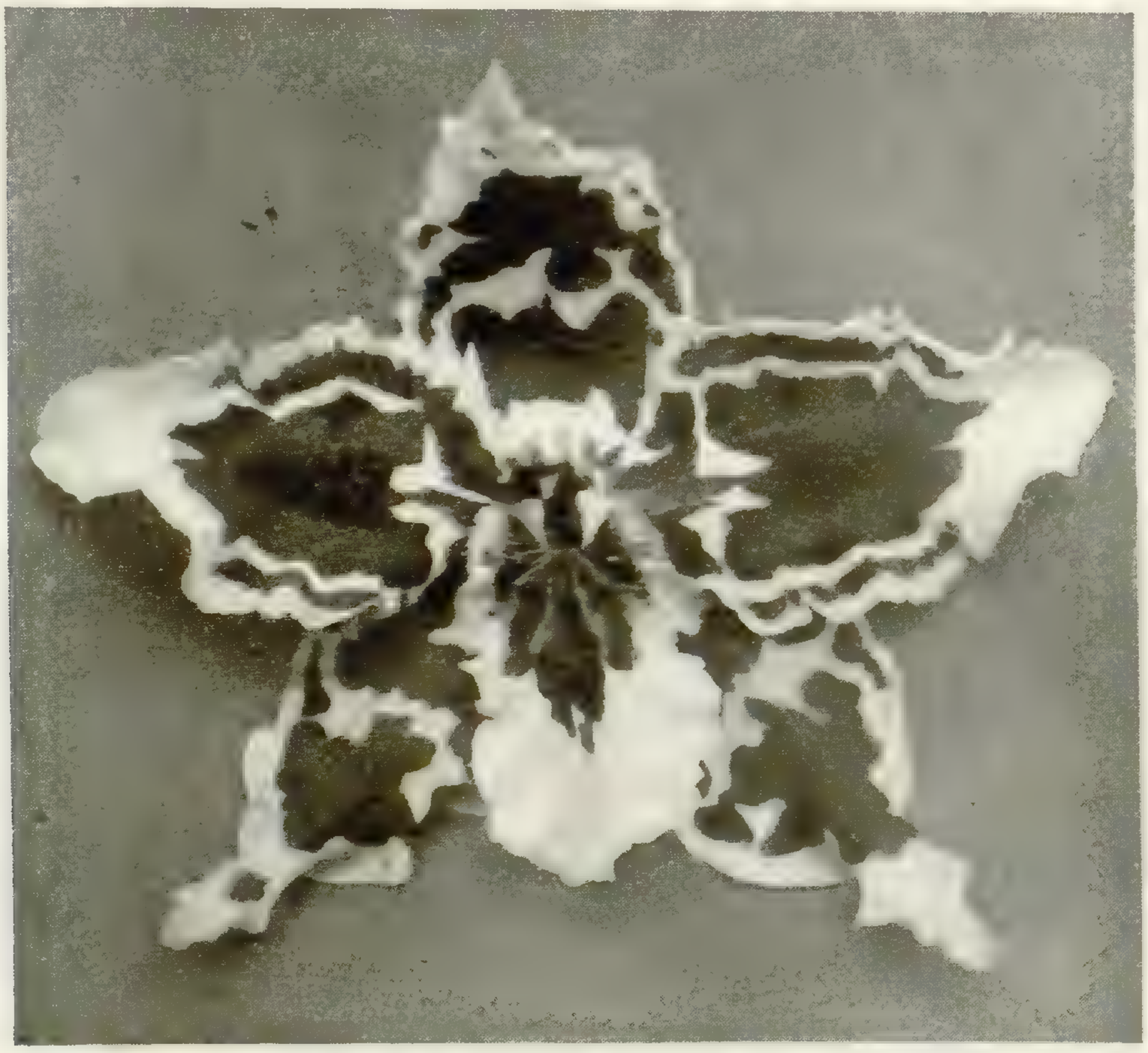

Fig. 13. ODONTOGLOSSUM ARMAINVILLIERENSE VAR. JOHNSONII.

latter at page thirteen of our seventh volume. The colour is, however, much more purple, due to the influence of O. Pescatorei. It is a remarkably fine variety, the flower measuring over $3\frac{3}{4}$ inches from tip to tip of the petals, while all the segments are good in shape, and the breadth of the clear white margins, and the large white area of the front lobe of the lip, throws the purple markings up to great advantage. It is one of the finest varieties of O. armainvillierense that we have seen. The photograph here reproduced was taken by Mr. F. W. Rolfe, and shows the flower under natural size, while the dorsal sepal is somewhat foreshortened, owing to the flower having become a little flaccid when the photograph was taken, and thus curved forward a little.

## CALENDAR OF OPERATIONS FOR MARCH.

By J. T. BARKER, The West Hill, Hessle, E. Yorks.

WITH the lengthening days, and the increased amount of light and sunshine, our plants will become active, and commence to push their growth rapidly.

TEMPERATURES now should range a few degrees higher all round than those given in the January number, and, with the increased heat, additional atmospheric moisture must be given. A humid atmosphere may now be maintained in all the houses, as everything will now be commencing to grow, therefore damping down twice or three times a day, according to the outside conditions, will not be too much.

WATERING at this season requires a great amount of care and attention on the cultivator's part, as much damage to the roots may be done by the compost being in an over-saturated condition for any length of time. He must use a certain amount of discrimination in supplying and withholding water, first making sure that the compost is dry enough, and then giving a good soaking.

VENTILATION during this month requires more care and attention, perhaps, than in any other during the year. It is often very difficult to ventilate a house as one would like, especially with a cold north-east wind blowing, and the sun shining brightly at intervals. Nevertheless, air must be admitted on all favourable occasions from one source or the other. Fresh air is life to plants, but, in its admission to our houses, we must be careful that no draughts are caused, or much mischief will be done.

STOKING.—Those in charge of the stoking of the fires during this month have also a very trying time, as the outside conditions vary often from one extreme to the other. A fair amount of artificial warmth will still be required at night, but during the day the less the better, especially should the sun be shining—just sufficient to maintain the temperature. In all cases extreme fluctuations of temperature must be avoided.

SHADING will now come into general use, but must not be applied to excess, or the plants will become weak and spindly. After the wet, dull winter we have passed through, the leaves and bulbs of the plants are tender, and they must be inured to the light and heat of the sun gradually. Sunshine, in many cases, paralyses plants, especially those that delight in shady positions, and these should never be allowed in strong sunshine.

THUNIAS will be commencing to grow, and must be repotted before the new shoots commence to push forth their roots. The compost I recommend for them is half peat and half loam, from which all the fine particles have been taken, mixed with some sphagnum moss, and dried cow manure. The pots must be well drained, as they require an abundant supply of water

when in full growth, and they must not be potted too firmly. Thunias enjoy a sunny position in the warmest house, placed well up to the glass, and exposed to the light, and water must be very sparingly applied to them until the flower spike appears at the apex of the newly-made bulbs. The growths may be potted up singly, or made up into specimens, according to the requirements of the cultivator. When in full growth, an occasional watering with weak manure water will be beneficial. These plants may be propagated by taking off portions of the old pseudobulbs, cutting them into lengths, and inserting them as ordinary cuttings in pots of coarse silver sand. When they commence to grow, and to push out roots, they may be potted up in small pots in the usual way. The cuttings should be placed in a warm propagating case, or they will succeed under a bell glass, placed in the warmest house, and protected from strong sunshine.

CALANTHES of the deciduous section will need repotting during the present month, and are best done when the new growths are a few inches high and about to push forth new roots. The treatment as regards compost temperatures and watering of Thunias will answer the requirements of Calanthes, with the exception that the latter will not stand the strong rays of the sun like the former, therefore must have protection. The bulbs, before they are placed in their pots, should be thoroughly examined for a small species of scale which often infests them, and which, it is needless to say, must be removed. The pots must be thoroughly clean, and the compost nicely warmed, before the bulbs are potted. The plants must be grown from the beginning to the end without a check. In these deciduous plants it is during the early stages of growth that discretion is needed, for if over-watered before the roots are well hold of the compost failure is assured. Calanthes are most useful and decorative Orchids, and worth all the pains and trouble to bring them to perfection, but, unfortunately, they will not stand fogs.

PHAIUS is another genus of terrestial Orchids which will succeed in the same compost, and under the same conditions as regards watering and temperatures. Many of them will succeed in an ordinary plant stove, and make fine specimens, bearing handsome foliage and strong spikes of flowers. After the plants have ceased to flower, and the new growths are sufficiently advanced and about to produce new roots, any necessary repotting may have attention. They should be grown in fairly large, well-drained pots, and the plants should be potted below the rim of the pots, like ordinary plants. During the time they are in full growth they delight in an abundant supply of water at the roots, and must be shaded from strong sunshine.

PERISTERIA ELATA may be treated as a Phaius, growing it under the same conditions and resting it in a nearly dry condition in a house ranging from 55° to 60° during the winter months. The foliage of these plants is

subject to attacks of scale, thrip, and other pests, which must not be allowed to gain a foothold.

Pleiones.—Such sorts as P. maculata, lagenaria, and Wallichiana are growing vigorously, therefore will require more water at the root. These plants being subject to attacks of red spider, a very light spraying under their leaves will be beneficial from time to time, but on no account must water be allowed to enter the centre of the growths. Such sorts as P. humilis and any of the late-flowering section, having now passed out of bloom and commenced to grow, may have attention as regards repotting, should it be necessary, using the same compost as for Cypripediums.

Miltonia vexillaria will now be growing vigorously, and will require a plentiful supply of water at the roots, and towards the end of the month may be placed at the warm end of the Cool house, or the cool end of the Intermediate house—either will answer their requirements. I find the flower spikes are finer, the flowers larger, the colour richer, and the plants better in every way when grown in a practically even temperature the whole year round. M. Roezlii, M. Bleuana, and other hybrids may now be removed from the warmest house to a moist shady position in the Intermediate house. Thrip and other insect pests which are very troublesome to Miltonias must be kept in check.

Cattleyas.—C. Percivaliana and C. Trianæ, as they pass out of flower and begin to push new roots, may have attention as regards repotting, should it be necessary, using the same compost as for Lælia anceps recommended last month. There are many other Cattleyas of the C. labiata section and numerous hybrids, which also may have attention in the same way, should they require it. It is most difficult to say when any particular Cattleya or Læliocattleya should have attention, but if new roots are about to push forth from the rhizome, the cultivator need not hesitate in the least. Should the plant or plants then require new compost give it to them. There is only a very small part of the year in which we are not potting some one or the other of the members of this glorious family.

Cypripediums must be potted as they pass out of flower, using the compost as advised for the C. insigne family in last month's Calendar. The more of this family that can be done now the better able are we to devote time and attention to other subjects which need them during the busy season of the next three or four months.

Cœlogyne cristata and its varieties will now be in full bloom, and well-flowered plants of this beautiful old species are not easily surpassed. When the plants pass out of flower they should be rested in the Intermediate house until the new growths are seen to be starting from the base of the pseudobulbs, when they may be watered in the usual manner. After carrying a very heavy crop of flowers, the bulbs of these plants will often

shrivel, but an excessive amount of water should not be given them with the idea of making them plump again. This often means the loss of the whole of the roots, and the plants are then in a very bad way.

DENDROBIUMS will now be making a great show, especially if they are grown in quantity, and will fill up the blank made as regards flowers, by the Cypripediums passing out of bloom. Bring them on slowly, and do not attempt to force them, as the flowers will be finer and the new growths stronger, if allowed to take their time.

GENERAL REMARKS.—Since writing my last we have had, in some places, rather a severe spell of cold weather, just to remind us not to be in too great a hurry to push our plants into growth. My advice still is to keep everything as quiet as possible, and not to unduly raise the temperatures or hasten the growth of any plants. The growths will be finer, more consolidated, and better in every way if made later, when the sun has more influence and power. Insect and other pests must be diligently searched for and eradicated as far as possible. In conclusion, let me say take time by the forelock, and push on all work that can be safely carried out before the rush of the busy season arrives.

## SOCIETIES.

### ROYAL HORTICULTURAL.

A MEETING was held at the Royal Horticultural Hall, Vincent Square, Westminster, on January 23rd last, when there was a very fine display of Orchids, including nine medal groups, while one First-class Certificate, five Awards of Merit, and one Cultural Commendation were also given.

Orchid Committee present: J. Gurney Fowler, Esq. (in the Chair), and Messrs. J. O'Brien (hon. sec.), Harry J. Veitch, Gurney Wilson, F. J. Hanbury, W. Cobb, G. F. Moore, T. Armstrong, A. A. McBean, J. Charlesworth, J. Cypher, W. P. Bound, J. E. Shill, H. G. Alexander, A. Dye, W. H. White, J. Wilson Potter, W. Bolton, J. S. Moss, de Barri Crawshay, and Sir Jeremiah Colman, Bart.

Lieut.-Col. Sir G. L. Holford, Westonbirt (gr. Mr. H. G. Alexander), was awarded a Lindley Medal for a choice group of well-grown Orchids, including Lælia anceps G. D. Owen and L. a. Amesiæ, each with nine spikes, L. autumnalis alba with four spikes, Læliocattleya Cappei, Westonbirt var., with a spike of thirteen flowers, and Vanda Watsonii with seven spikes.

Sir Jeremiah Colman, Bart., Gatton Park, Reigate (gr. Mr. J. Collier), sent a beautiful group of Lælia anceps, including the varieties Dawsonii, Sanderiana, Hilliana rosefieldiensis, white with the front lobe of the lip pink, and the fine Gatton Park var., with plants of the charming Phaiocalanthe Colmanii (Silver Flora Medal).

De Barri Crawshay, Esq., Rosefield, Sevenoaks (gr. Mr. Stables), sent Zygopetalum brachypetalum Crawshayanum, Odontoglossum Yula (Adrianæ × Lambeauianum), and O. harvengtense Crawshayanum, a very fine home-raised form.

H. S. Goodson, Esq., Fairlawn, Putney (gr. Mr. G. E. Day), sent Odontioda Cooksoniæ Royal Scarlet, Odontoglossum Ceres, Goodson's var., and Læliocattleya Wellsiana, Goodson's variety.

Sir Trevor Lawrence, Bart., K.C.V.O., Burford (gr. Mr. W. H. White), sent a plant of Zygopetalum brachypetalum.

Sir W. Marriott, Down House, Blandford, sent a curious hybrid between Lælia anceps Sanderiana and Cattleya Aclandiæ, having a pale pink flower most like that of the Lælia parent.

C. J. Phillips, Esq., The Glebe, Sevenoaks, sent Cymbidium Pauwelsii, Phillip's var., having the front lobe of the lip bright red.

Pantia Ralli, Esq., Ashtead Park, Epsom, sent Lycaste Balliæ, Cymbidium grandiflorum, and the white form of Cattleya Trianæ.

Francis Wellesley, Esq., Westfield, Woking (gr. Mr. W. Hopkins), sent Cypripedium Thalia The Baron (insigne Sanderæ × Baron Schröder), a heavily blotched form, and C. King Emperor, a hybrid of C. Beeckmanii.

Sir Julius Wernher, Luton Hoo (gr. Mr. Metcalfe), sent Calanthe Vulcan, with deep magenta-rose flowers.

Messrs. Armstrong & Brown, Tunbridge Wells, staged a fine group of Læliocattleyas, Cypripediums, some beautiful examples of Cattleya Maggie Raphael alba Orchidhurst var., some fine specimens of Masdevallia tovarensis, Schrœderiana, and other good things (Silver Flora Medal).

Messrs. Charlesworth & Co., Haywards Heath, staged a group of choice Orchids, including a fine Odontoglossum crispum xanthotes, O. hibernicum, Stanhopea Shuttleworthii, the brilliant Odontioda Diana, Cattleya Octavia, and the beautiful Læliocattleya bella alba (Silver Flora Medal).

Messrs. James Cypher & Sons, Cheltenham, staged a fine group of Cypripediums, including C. Mrs. Du Cane Godman (Mrs. Wm. Mostyn × insigne), a fine thing, having a large white dorsal sepal blotched with purple, C. Beeckmanii, Venus, Thompsonii, forms of C. Leeanum, aureum, Actæus, and others (Silver Flora Medal).

Messrs. Stuart Low & Co., Bush Hill Park, staged a fine group of Calanthe Veitchii, Cattleyas, Læliocattleyas, Odontoglossums, Angræcum citratum, A. superbum, Sarcopodium cymbidioides, &c. (Silver Flora Medal).

Messrs. Sander & Sons, St. Albans, staged a very fine group, including many beautiful Odontoglossums, Odontiodas, Phalænopsis, Oncidium Jamesonii, bearing many bright yellow normal and abnormal flowers, Cymbidium erythrostylum, and numerous other interesting things (Silver Flora Medal).

Mr. E. V. Low, Vale Bridge, Haywards Heath, staged a small group of choice things, including Cypripedium Laconia (Leeanum × Sallieri aureum), a fine greenish yellow flower, with a faint purple band on the dorsal sepal and a white apex, C. Ulysses (Mrs. Wm. Mostyn × Thompsonii), a well-coloured flower, C. Waterloo, and C. Actæus langleyense (Silver Banksian Medal).

Messrs. J. & A. A. McBean, Cooksbridge, sent some good examples of Odontoglossum crispum, white forms of Lælia anceps, Cattleya Maggie Raphael alba, a specimen of C. chocoensis alba, Sophrocattleya Blackii, Cypripediums, Brassocattleyas, &c. (Silver Banksian Medal).

Messrs. Hassall & Co., Southgate, sent a few good Odontoglossums, Lycaste Skinneri, Cattleya Octavia, and C. Blackii (Gaskelliana alba × Mendelii alba), and others.

Mr. W. A. Manda, St. Albans, sent some forms of Cattleya Trianæ.

Messrs. James Veitch & Son, Chelsea, sent Cypripedium Idina (insigne Harefield Hall var. × Countess of Carnarvon), C. Actæus langleyense, and the prettily spotted Odontoglossum Doris.

### FIRST-CLASS CERTIFICATE.

CYPRIPEDIUM NORA (Mons. de Curte × aureum Œdippe).—A large and beautifully shaped flower, having the dorsal sepal rose-coloured, heavily lined with deep purple above, and more feathered towards the white margin, while the petals and lip are yellow tinged with brown. Exhibited by Lieut.-Col. Sir G. L. Holford, K.C.V.O.

### AWARDS OF MERIT.

CYMBIDIUM SCHLEGELII (insigne × Wiganianum).—A striking thing, much resembling the former in habit, but with larger flowers, slightly blotched with purple on the sepals and petals, and the lip undulate and blotched with red. Exhibited by Messrs. J. & A. A. McBean.

CYPRIPEDIUM DUKE OF MARLBOROUGH (parentage unknown).—Dorsal sepal white with a dark middle line, and some purple spotting above the green base, while the petals and lip are yellow tinged with brown. Exhibited by the Duke of Marlborough, Blenheim Palace (gr. Mr. Hunter).

LÆLIOCATTLEYA AMABILIS (L.-c. Fascinator × C. Lueddemanniana Stanleyi).—A beautiful pure white flower, with some clear purple veining on the lip. Exhibited by Messrs. Charlesworth & Co.

*ZYGOCOLAX* CHARLESWORTHII, COBB'S VAR. (Colax jugosus × Zygopetalum Perrenoudii).—A large light-coloured form, having white flowers barred with violet on the sepals and petals, and blotched with deep violet on the lip. Exhibited by Walter Cobb, Esq., Rusper (gr. Mr. C. J. Salter).

*ZYGOPETALUM* MACKAYI CHARLESWORTHII.—A beautiful albino of the species, having pale green sepals and petals, and a pure white lip. Exhibited by Messrs. Charlesworth & Co. (see p. 72, fig. 11).

### CULTURAL COMMENDATION.

CALANTHE WILLIAM MURRAY.—Some exceptionally well-grown spikes, about four feet in length, and profusely flowered. To Mr. Branson, gr. to George Hanbury, Esq., Blythewood, Burnham.

---

At the meeting held on February 6th, the Orchids showed a great falling off, no doubt owing to the severe frost of the previous week, but five medal groups were shown, and the awards consisted of one First-class Certificate and one Award of Merit.

Orchid Committee present :—J. Gurney Fowler, Esq. (in the Chair), and Messrs. J. O'Brien (hon. sec.), Harry J. Veitch, R. Brooman White, W. Bolton, Walter Cobb, Gurney Wilson, W. H. White, A. Dye, H. G. Alexander, J. E. Shill, W. H. Hatcher, J. Cypher, T. Armstrong, A. A. McBean, C. H. Curtis, F. J. Hanbury, R. A. Rolfe, and Sir Jeremiah Colman, Bart.

Lt.-Col. Sir George L. Holford, K.C.V.O., Westonbirt (gr. Mr. H. G. Alexander), sent a fine plant of the brilliant Sophrocatlælia Marathon var. Vesuvius, bearing a six-flowered spike, and Cypripedium Helen II., Holford's var.

J. Gurney Fowler, Esq., Glebelands, S. Woodford (gr. Mr. J. Davis), sent Odontoglossum crispum Olive, a home-raised seedling, having the flower heavily blotched with red-brown.

Sir Jeremiah Colman, Bart., V.M.H., Gatton Park, Reigate (gr. Mr. J. Collier), showed Odontoglossum Collieri (Phœbe × armainvillierense), a richly-coloured hybrid, with acuminate segments, heavily marked with ruby purple except at the base and apex.

Francis Wellesley, Esq., Westfield, Woking (gr. Mr. W. Hopkins), sent Brassocattleya Wellesleyæ (C. Mossiæ Wageneri × B. glauca), a pretty white flower, with the disc of the lip yellow, Cypripedium Wellesleyæ, C. memoria Mostynii superbum, and C. Duchess of Argyll (Druryi × Leeanum giganteum), a handsome thing, with well-blotched dorsal sepal.

Messrs. W. B. Hartland & Sons, Ardcairn, Ballintemple, Cork, staged a fine group of Cypripediums and Odontoglossums, the former including some good C. Leeanum, Mrs. Wm. Mostyn, insigne Sanderianum, callosum Sanderæ and others, while the latter contained the mauve purple O. Groganii, nævium, loochristiense and about a dozen remarkably dissimilar hybrids, obtained from O. Rolfeæ × Vuylstekei, including forms with both white and yellow ground colour, and a great variation in the amount of brown and purple spotting (Silver Flora Medal).

Messrs. Charlesworth & Co., Haywards Heath, staged a choice group, including a beautiful Odontoglossum crispum xanthotes (O. c. Charlesworthii × O. c. Cooksoniæ), with very round flowers, and deep yellow

blotches, Vanda teres alba, the rare Catasetum Randii, Odontioda Charlesworthii and O. Bradshawiæ (Silver Banksian Medal).

Messrs. J. Cypher & Sons, Cheltenham, sent forms of Lælia anceps, Masdevallia triangularis, Hincksiana and Schrœderiana, Læliocattleya callistoglossa, Cypripedium Bridgesii, Alcibiades, Beeckmanii, aureum Hyeanum, Vandyke, and others (Silver Banksian Medal).

Messrs. Stuart Low & Co., Bush Hill Park, sent a good Gomeza crispa with three spikes, a well-flowered Oncidium cheirophorum, Vanda Amesiana, Masdevallia tovarensis, Pleurothallis Roezlii with ten spikes, Saccolabium bellinum, Dendrochilum glumaceum, and a few good Cypripediums, Calanthes and Odontoglossums (Silver Banksian Medal).

Messrs. J. & A. A. McBean, Cooksbridge, sent Cymbidium Veitchii, Odontioda Charlesworthii, white and coloured forms of Lælia anceps, Odontoglossum crispum, Cattleya Trianæ, C. chocoensis alba, Lycaste Skinneri, and a well-coloured Brassocatlælia from L.-c. Eudora splendens × B. Digbyana (Silver Banksian Medal).

Messrs. Hassall & Co., Southgate, sent Lycaste Skinneri alba, Odontoglossum percultum, O. Lawrenceanum, O. Solon (Adrianæ × armainvillierense), and three Cypripediums.

Mr. W. A. Manda, St. Albans, sent Cattleya Trianæ, American Beauty, with a broad purple band at the apex of the petals, and two others.

Messrs. Tracy, Twickenham, sent the rare Oncidium anthocrene.

A few Orchid drawings were included in a group of paintings of garden plants exhibited by Miss Ivy Massee, Kew Gardens (Silver Flora Medal).

### FIRST-CLASS CERTIFICATE.

ODONTOGLOSSUM MERLIN (parentage unknown).—A beautiful white flower, of round shape, with clusters of brown blotches on the centre of the sepals and petals. The spikes bore thirteen beautiful flowers. Exhibited by Lt.-Col. Sir George L. Holford, K.C.V.O.

### AWARD OF MERIT.

ODONTOGLOSSUM MEMORIA LILY NEUMANN (parentage unknown).—A handsome hybrid, having the lower two-thirds of the segments claret-purple, with a few white lines, and the upper part white tinged with rose. Exhibited by J. Gurney Fowler, Esq.

---

## MANCHESTER AND NORTH OF ENGLAND ORCHID.

At the meeting held on December 28th, 1911, the members of Committee present were :—Rev. J. Crombleholme (in the Chair), R. Ashworth C. Parker, Z. A. Ward, J. C. Cowan, J. Cypher, J. Evans, W. Holmes, A. J. Keeling, D. McLeod, and H. Arthur (Secretary).

W. R. Lee, Esq., Heywood (gr. Mr. Branch), staged a group, principally Cypripediums of good quality, including C. Antinous, Minos Youngii, Priam,

Niobe, Thalia, C. Leeanum Clinkaberryanum, Keeling's var., and Corona, C. insigne Sanderæ, Sanderianum, and Harefield Hall var. (Silver Medal).

*Z.* A. Ward, Esq., Northenden (gr. Mr. Weatherby), staged a group of Odontoglossums and Cypripediums; among the former being some well-grown plants of O. Harryanum and triumphans, Vuylstekei, Jasper and Wilckeanum, Ward's var.; while the latter included C. Prince Edward of York, fulshawense, Boadicea var. Pica, Alcibiades, Ward's var., Priam, triumphans, and some Leeanums (Silver Medal).

R. le Doux, Esq., West Derby (gr. Mr. Fletcher), exhibited Odontoglossum Mde. Adelina Patti, a fine blotched hybrid, with Cypripedium Thalia giganteum, Euryades, New Hall Hey var., Mrs. Mabel Waring, Thalia Mrs. F. Wellesley, Minos Youngii, W. F. Hurndall, and others.

Col. J. Rutherford, M.P., Blackburn (gr. Mr. Lupton), staged fine plants of Lælia anceps, Odontoglossum crispum and some hybrids, Odontioda Graireana, Lycaste Skinneri alba, Cypripediums, &c. (Silver Medal).

R. Ashworth, Esq., Newchurch (gr. Mr. Gilden), staged Odontoglossums in variety, Cattleya Maggie Raphæl alba, Miltonia Bleuana, Oncidium Forbesii, with Cypripedium fulshawense, insigne Harefield Hall var. and Leeanum Corona (Silver Medal).

J. McCartney, Esq., Bolton (gr. Mr. Holmes), sent Lælia anceps alba Worthington's var., Læliocattleya Cappei, Cattleya Henrietta, Angræcum sesquipedale, with Cypripedium Cassandra, callosum, Minos Youngii, and Sir Redvers Buller (Silver Medal).

Rev. J. Crombleholme, Clayton-le-Moors (gr. Mr. Marshall), staged several varieties of Cypripedium insigne, Leeanum Clinkaberryanum, Minos Youngii, Miss Amy Moore, George Moore, and Swinburnei magnificum (Bronze Medal).

O. O. Wrigley, Esq., Bury (gr. Mr. Rogers), staged about twenty plants of Vanda cœrulea, and a Cultural Commendation with Bronze Medal was granted to the gardener.

S. Gratrix, Esq., Whalley Range (gr. Mr. Brown), sent Cypripedium Mary Beatrice, and others mentioned under Awards.

J. J. Holden, Esq., Southport (gr. Mr. Johnson), sent Cypripedium Sunrise and Queen Alexandra.

H. J. Bromilow, Esq., Rann Lea (gr. Mr. Morgan), staged the unique and beautiful Cypripedium Bromilowiæ.

Messrs. J. Cypher & Sons, Cheltenham, staged an excellent exhibit of Cypripediums, including Mrs. Wm. Mostyn, Charlesianum, Miss Louisa Fowler, Euryades, Minos Youngii, with some good Leeanum and insigne varieties (Silver Medal).

Mr. J. Evans, Congleton, sent several plants of Cattleya Maggie Raphael alba, Lælia anceps alba Worthington's var., Cypripedium

Beeckmanii, Leoniæ Gratrixiæ, Euryades New Hall Hey var., Actæus langleyense, and Germaine Opoix Westfield var. (Silver Medal).

The Liverpool Orchid Co., Gateacre, sent a small group of Cypripediums, including several fine hybrids of the Leeanum section, insigne Harefield Hall var. and Brooksiæ, Empress, Allanianum and Daphne.

Messrs. A. J. Keeling & Sons, Bradford, staged Cypripedium Tityus, Mrs. Tautz, Excelsior, and a seedling.

Messrs. Hassall & Co., Southgate, staged a fine variety of Odontoglossum crispum without markings.

Mr. W. Shackleton, Great Horton, staged three fine hybrid Odontoglossums.

### FIRST-CLASS CERTIFICATES.

Odontoglossum crispum Anami, a fine variety, with heavily blotched segments; O. c. xanthotes Golden Gem, with yellow markings on segments and lip; and Cypripedium Helen II., Westonbirt var.; from W. R. Lee, Esq.

Cypripedium Royal Sovereign (Hera robustum × Urania var. Martin Cahuzac), a magnificent flower, the large dorsal sepal being almost covered with purple spots; and C. Helen II., Westonbirt var.; from S. Gratrix, Esq.

### AWARDS OF MERIT.

Cypripedium Magog (Adrastus × Euryades splendens), a well-built flower, from S. Gratrix Esq.

Cypripedium Aurora Borealis, a fine flower with large round dorsal sepal; from J. J. Holden, Esq.

Cypripedium Bernal Bagshaw (Alcibiades × Standard), a fine well-marked flower; C. Hazel Vicars (Lord Ossulston × Actæus langleyense), also very fine, and C. Dora Jameson, from R. le Doux, Esq.

Cypripedium Actæus ashlandense Nos. 1 and 2, from the same parents, but very different in the markings, No. 1 carrying spots on the dorsal, like the Harefield Hall var., the other almost without, following the Leeanum parent; and Odontoglossum Æsopus, parentage unknown, of almost solid plum colour, with nearly white tips to sepals and petals; from R. Ashworth, Esq.

Lælia anceps Holmesii, a very fine variety of the Chamberlainiana type; from J. McCartney, Esq.

---

At the meeting held on January 12th, 1912, the members of Committee present were: Rev. J. Crombleholme (in the Chair), R. Ashworth, W. R. Lee, C. Parker, H. Thorp, Z. A. Ward, J. C. Cowan, J. Cypher, J. Evans, W. Holmes, A. J. Keeling, D. McLeod, and H. Arthur (Secretary).

Z. A. Ward, Esq., Northenden (gr. Mr. Weatherby), staged a remarkably fine group, consisting principally of Odontoglossums, hybrids predominating, and choice Cypripediums too numerous to mention (Silver-gilt Medal).

W. R. Lee, Esq., Heywood (gr. Mr. Branch), staged a very nice group, containing Miltonia Bleuana Pitt's var., with Cattleyas, Odontoglossums, and many choice Cypripediums (Silver Medal).

Col. J. Rutherford, M.P., Blackburn (gr. Mr. Lupton), staged a nice miscellaneous group, including Odontoglossums in variety, Cypripediums, Miltonias of the vexillaria section, Cymbidium Tracyanum, Cattleya quadricolor virginalis, and Epidendrum vitellinum majus (Silver Medal).

W. J. Hargreaves, Esq., Burnley, staged a group of choice Cypripediums, including C. Mrs. Francis Wellesley, Florence Hargreaves, Marjorie Hargreaves, Leeanum Clinkaberryanum, and giganteum, insigne Statterianum, Bruno, Spicerianum, and Evelyn Ames (Silver Medal).

J. McCartney, Esq., Bolton (gr. Mr. Holmes), staged a mixed group, including Cattleya Maggie Raphael alba, Lælia anceps Sanderiana, Lycaste Skinneri alba, Phalænopsis amabilis, with Cypripediums and Calanthes in variety (Silver Medal).

Rev. J. Crombleholme, Clayton-le-Moors (gr. Mr. Marshall), staged a small but pretty group, including Cypripedium Baron Schröder, Thalia var. Mrs. F. Wellesley, Mons. de Curte, J. W. Howes, Geo. Moore, Madame Jules Hye, Allanianum, and insigne King Edward VII. (Bronze Medal).

G. H. Peace, Esq., Monton Grange (gr. Mr. C. Mace), staged a group of Cypripediums, including Venus Rann Lea var., aureum Lambianum, Amy Moore, insigne heatonense, Leeanum immaculatum, Thompsonii, Allanianum, and others (Bronze Medal).

O. O. Wrigley, Esq., Bury (gr. Mr. Rogers), was awarded a Vote of Thanks for a collection of Cypripedium Earl of Tankerville, Æson giganteum, Minos Youngii, Hindeanum, Beeckmanii, keighleyense Invincible, and others, all in excellent condition.

S. Gratrix, Esq., Whalley Range (gr. Mr. Brown), staged Cypripedium Prince Albert, and the pretty Dendrobium Phalænopsis hololeucum.

J. J. Holden, Esq., Southport (gr. Mr. Johnson), staged Cypripedium Leeanum John Holden, Odontoglossum Minnehaha, and a cut spike of the beautiful O. ardentissimum Johnsonii.

H. J. Bromilow, Esq., Rann Lea (gr. Mr. Morgan), staged Cypripedium Reginald Young and two seedlings.

J. H. Craven, Esq., Keighley (gr. Mr. Corney), staged Odontoglossum seedlings of O. crispum Luciani parentage, and a nice variety of Odontioda.

R. le Doux, Esq., West Derby (gr. Mr. Fletcher), sent Cypripedium beechense superbum.

H. Thorp, Esq., Middleton, sent Cypripedium St. Albans.

Messrs. J. Cypher & Sons, Cheltenham, staged a nice group of choice Cypripediums, with Lælia anceps Hilliana and Amesiana, and Calanthe Harrisii and Sandhurstiana.

Messrs. Sander & Sons, St. Albans, staged Cypripedium Golden Oriole, a large-flowered Odontoglossum crispum, and a nice blotched hybrid.

Messrs. Stuart Low & Co., Enfield, staged a fine Cattleya Trianæ, with Cypripedium Curtmanii magnificum and C. Beryl West Point var.

Messrs. A. J. Keeling & Sons, Bradford, sent Cypripedium venustum Measuresianum and C. Euterpe.

Messrs. Hassall & Co., Southgate, staged Odontoglossum amabile, laudatum, Aireworth, and Cattleya Aubergham, a fine dark variety.

Messrs. Charlesworth & Co., Haywards Heath, staged a fine Cattleya Trianæ alba, a fine blotched Odontoglossum crispum, O. Dora, Doris, and Cypripedium leyburnense.

Mr. W. Shackleton, Great Horton, staged Odontoglossum Vuylstekei, O. Rossii with sepals spotted to the tips, O. seedling, and a nice var. of Cypripedium Leeanum.

Mr. D. McLeod, Chorlton-cum-Hardy, staged Cypripedium Euryades, New Hall Hey var., and a collection of cut flowers.

### FIRST-CLASS CERTIFICATES.

Læliocattleya Myrrha grandis (Gottoiana × Dowiana Rosita), a fine flower, with well-lined lip; Cypripedium Actæus var. Durbar, a large round flower; Odontoglossum crispum xanthotes var. perfectum, a beautiful variety, with lemon yellow markings; from W. R. Lee, Esq.

Odontoglossum Delhi (crispum augustum × eximium); from J. J. Holden, Esq. (figured at p. 44).

Odontoglossum crispum xanthotes Gratrixiæ, having well-shaped flowers with bright yellow markings; from S. Gratrix, Esq.

### AWARDS OF MERIT.

Cattleya Maggie Raphael var. pulcherrima, with pale markings on lip, and Odontoglossum Milky Way, marked all over with delicate spots; from W. R. Lee, Esq.

Cypripedium Jasper (Alcibiades × Hitchinsiæ), a fine large flower; and Odontoglossum Eric, with deep purple blotches; from Z. A. Ward, Esq.

Cypripedium seedling (hirsutissimum × aureum Hyeanum), a fine, well-balanced flower; from S. Gratrix, Esq.

Cypripedium Actæus major (Leeanum giganteum × insigne Harefield Hall var.); a well-shaped flower from Col. J. Rutherford, M.P.

Cypripedium caudatum Sanderæ, a nice variety, with petals a foot in length; and C. jucundum, a very noble flower; from Messrs. Sander & Sons.

Sophrocattleya Saxa, Low's var., a beautiful salmon pink flower, with yellow throat and bright lines on lip; from Messrs. Stuart Low & Co.

Cypripedium Lion (Mrs. Wm. Mostyn × Euryades), a very fine round well-marked flower; from Messrs. A. J. Keeling & Sons.

At the meeting held on Thursday, January 25th, 1912, the members of Committee present were :—Rev. J. Crombleholme (in the Chair), R. Ashworth, W. R. Lee, C. Parker, H. Thorp, Z. A. Ward, J. C. Cowan, J. Cypher, J. Evans, W. Holmes, A. J. Keeling, D. McLeod, F. K. Sander, and H. Arthur (Secretary).

W. R. Lee, Esq., Heywood (gr. Mr. Branch), staged a group of fine plants, including Odontoglossums, Cypripedium Queen Alexandra, triumphans, Ville de Paris, Fascinator, Helen II., Sunrise, Rossetti, Marjorie, Lee's var., and others (Silver-gilt Medal).

Z. A. Ward, Esq., Northenden (gr. Mr. Weatherby), staged a choice group, composed principally of well-grown Odontoglossum crispum Luciani and White's var., O. amabile, Fascinator, Emperor, and spectabile, with Cypripediums, Dendrobium splendidissimum, and others (Silver-gilt Medal).

S. Gratrix, Esq., Whalley Range (gr. Mr. Brown), staged a small group of choice plants, including Cypripedium Curtisii West Point var., aureum Surprise, Mrs. F. Sander, alportense, Odontoglossum crispum Ethel, Cattleya Trianæ Mary Gratrix, and others (Silver Medal).

Col. J. Rutherford, M.P., Blackburn (gr. Mr. Lupton), staged a mixed group, in which Odontoglossums were well represented, O. Canary and O. Rossii being very fine. It also included many choice Cypripediums (Silver Medal).

J. McCartney, Esq., Bolton (gr. Mr. Holmes), staged a varied group, including Lælia anceps Stella and Sanderiana, several varieties of Cattleya Trianæ, Læliocattleya Gottoiana, Brassocattleyas, and Cypripediums (Silver Medal).

W. J. Hargreaves, Esq., Burnley, staged a nice group of Cypripediums, including C. Minos Youngii, Thalia, Velma, Leeanum superbum, aureum Hyeanum, and virginale nitens, Euryades, New Hall Hey var., and others (Bronze Medal).

G. H. Peace, Esq., Monton Grange (gr. Mr. C. Mace), staged a small group, including Cypripedium aureum Hyeanum, virginale and Œdippe, C. Leeanum Clinkaberryanum, C. villosum, Odontoglossum spectabile and Pescatorei (Bronze Medal).

Rev. J. Crombleholme, Clayton-le-Moors (gr. Mr. Marshall), staged a small group, including Cypripedium Priam, aureum virginale, Beeckmanii, T. B. Haywood, Pollettianum, Statterianum, Richmanii, and varieties of insigne (Bronze Medal).

O. O. Wrigley, Esq., Bury (gr. Mr. Rogers), was awarded a Vote of Thanks for a small group of very choice Lycaste Skinneri alba, Purple Emperor, Robin and Glory, with Cypripedium Beeckmanii, Thompsonii, aureum Œdippe, Leeanum Purity, Beryl, and several unnamed seedlings.

J. J. Holden, Esq., Southport (gr. Mr. Johnson), staged Odontoglossum crispum Holdenii, Cypripedium Chapmanii, E. N. Holden, and others.

J. H. Craven, Esq., Keighley (gr. Mr. Corney), staged Odontoglossum crispum var. Battle of Waterloo, and some crispum seedlings, with Odontioda Corneyana.

H. J. Bromilow, Esq., Rann Lea (gr. Mr. Morgan), staged Cypripedium Lord Wolmer, Euryades, New Hall Hey var., and a fine seedling Actæus.

R. Ashworth, Esq., Newchurch (gr. Mr. Gilden), sent Cypripedium Earl of Tankerville.

F. A. Hindley, Esq., Bradford, sent Cypripedium Hindleyanum.

Messrs. J. Cypher & Sons, Cheltenham, staged a group of choice Cypripediums, C. aureum Hyeanum and Surprise, Actæus Sybil, Mrs. Godman, Boltonii, Alcibiades superbum, Thompsonii, Mrs. Wm. Mostyn, Minos Youngii, and Leeanum Clinkaberryanum being amongst the best (Silver Medal).

Messrs. Charlesworth & Co., Haywards Heath, sent Odontioda Wilsonii, and Læliocattleya Myra, with yellow sepals and petals.

Messrs. Hassall & Co., Southgate, staged some fine Odontoglossum Lambeauianum, armainvillierense, eximium and Aireworth, with Cattleya Blackii.

Messrs. Stuart Low & Co., Enfield, sent two seedling Cypripedium Beeckmanii.

Mr. J. Evans, Congleton, sent Cypripedium Venus and Odontoglossum eximium.

Mr. W. Shackleton, Bradford, sent a stray seedling Cypripedium.

### FIRST-CLASS CERTIFICATES.

Odontoglossum Harmac (crispum Graireanum × Vuylstekei), a fine deep claret-purple flower, margined with white; O. Miranda, rose, with brownish lines and spots, Sophrocattleya Wellesleyæ Lee's var., a rich scarlet flower, four inches across; from W. R. Lee, Esq.

Cypripedium Alcibiades, Gratrix's var. a gigantic flower, with the dorsal sepal over three inches across; from S. Gratrix, Esq.. A Silver Medal was also awarded.

### AWARDS OF MERIT.

Cypripedium Lady Dillon magnificum (nitens Ball's var. × Mrs. Wm. Mostyn); from W. R. Lee, Esq.

Cypripedium Black Knight (Mrs. Wm. Mostyn × Thompsonii), and C. Princess Wilhelmina (Sallieri aureum × Leeanum giganteum); from S. Gratrix, Esq.

Odontoglossum Prince Edward, Ward's var., O. crispum Eric, and O. ardentissimum Norman; from Z. A. Ward, Esq.

Odontoglossum crispum Luci-Masereel (Luciani × Franz Masereel), and Brassocattleya Rutherfordii (Gaskelliana alba × B. Veitchii Queen Alexandra); from Col. Rutherford, M.P.

Cattleya Purity (Warneri alba × intermedia alba), and Odontoglossum King George V.; from J. J. Holden, Esq.

## ORCHID NOTES AND NEWS.

Two meetings of the Royal Horticultural Society will be held at the Royal Horticultural Hall, Vincent Square, Westminster, during March, on the 5th and 19th, when the Orchid Committee will meet at the usual hour, 12 o'clock noon. The following meeting will be held on April 2nd.

We note with interest that the Society's Summer Show will this year be held at Holland House, Kensington, on July 2nd, 3rd, and 4th; also that, in order to demonstrate the value of hybrid Orchids as autumn-flowering plants, an exhibition will be held at the Horticultural Hall, Westminster, on November 5th and 6th. Cups and Medals are offered as prizes, and particulars will be announced later. A Conference on Orchids will be held in connection with the November exhibition.

The Manchester and North of England Orchid Society will hold meetings at the Coal Exchange, Manchester, on March 7th and 21st. The Committee meets at noon, and the exhibits are open to inspection of members and the public from 1 to 4 p.m. The following meeting will be held on April 4th.

Royal International Horticultural Exhibition.—At the request of M. Louis Gentil, Editor of the *Tribune Horticole*, Brussels, the Belgian State Railway, and the South-Eastern and Chatham Railway Companies have agreed to issue cheap tickets (50 per cent. under the usual price), to Belgian visitors to the London International Show in May next. These tickets will be issued from all the leading towns of Belgium direct to London, viâ Ostend or Calais, from May 18th up to May 26th, and will be available for fourteen days.

The Secretary of the North of England Horticultural Society writes that at its Annual Meeting, held on January 17th last, a resolution was unanimously passed "that Members of the R.H.S. Council and Committees be Hon. Members of the N.E.H.S. Council and Committees."

At the Annual Meeting of the R.H.S. held on February 13th, the President, Sir Trevor Lawrence, Bart., announced that the Victoria Medal of Horticulture had been awarded to Lt.-Col. D. Prain, F.R.S., Director of the Royal Botanic Gardens, Kew, and to Mr. E. H. Wilson, who has introduced so many interesting Chinese plants to our gardens.

## ORCHID PORTRAITS.

CATTLEYA LABIATA.—*Gard. Mag.*, 1912, p. 159, with fig.

CATTLEYA MAGGIE RAPHAEL ALBA ORCHIDHURST VAR.—*Gard. Chron.*, 1912, i. p. 75, fig. 35.

CYMBIDIUM SCHLEGELII.—*Garden*, 1912, p. 68, with fig.

CYPRIPEDIUM LORD WOLMER.—*Journ. Hort.*, 1912, i. pp. 114, 115, with fig.

CYPRIPEDIUM VENUS, OAKWOOD VAR.—*Gard. Mag.*, 1912, p. 89, with fig.

DENDROBIUM DENSIFLORUM.—*Journ. Hort.*, 1912, i. p. 100, with suppl. fig.

EPIDENDRUM STALLFORTHIANUM, Kränzl.—*Gard. Chron.*, 1912, i. p. 114, fig. 49.

HABENARIA CONOPSEA.—*Gard. Chron.*, 1912, i. p. 68, fig. 34.

LÆLIA ANCEPS VAR. G. D. OWEN.—*Gard. Chron.*, 1912, i. p. 61, fig. 33.

ODONTOGLOSSUM MEMORIA LILY NEUMANN.—*Gard. Chron.*, 1912, i. p. 99, fig. 45; *Gard. Mag.*, 1912, p. 133, with fig.; *Journ. Hort.*, 1912, i. p. 157, with fig.

ODONTOGLOSSUM MERLIN.—*Gard. Chron.*, 1912, i. p. 92, fig. 40; *Gard. Mag.*, 1912, p. 107, with fig.

STANHOPEA PERUVIANA, Rolfe.—*Bot. Mag.*, t. 8417.

ZYGOPETALUM MACKAYI VAR. CHARLESWORTHII.—*Gard. Chron.*, 1912, i. p. 83, fig. 37.

## ANSWERS TO CORRESPONDENTS.

[*Orchids are named and questions answered here as far as possible. Correspondents are requested to give the native country or parentage of plants sent. An* ADDRESSED *postcard must be sent if a reply by post is desired (abroad, reply postcards should be used). Subjects of special interest will be dealt with in the body of the work.*]

W.C.S.—Læliocattleya Picanus is probably correct, and the flower may improve in size when the plant becomes strong. Cattleya Gaskelliana × Lælia Iona should develop into a good thing. The Odontoglossum is O. purum, Rchb. f.

C.F.K.—A flower of a hybrid Phalænopsis has been received without any information.

A.H.—Flower quite undeveloped, and the record had better be deferred.

J.F.S.—1. Oncidium (§ Pulvinatæ) sp.; 2. Lockhartia micrantha, Rchb. f.; 3. Leochilus sp. The two that were omitted of the earlier sending are: 1 Probably Trichopilia oicophylax, Rchb. f.: 2. Xylobium hypocritum, Rolfe.

CATALOGUE RECEIVED.—Descriptive List of Orchids from Mr. E. V. Low, Vale Bridge, Haywards Heath, containing a good selection of species and hybrids.

We have received from the Agricultural and Horticultural Association, 92, Long Acre, London, E.C., copies of the pamphlets, *Monthly Reminders*, by Leslie Greening, F.R.H.S.; and *Window Gardens*, by T. W. Sanders, F.L.S. Price one penny each; also *One & All Gardening for* 1912, price 2d. All are well illustrated, but we do not find anything about Orchids to notice.

VOL. XX., No. 232. THE APRIL, 1912.

# ORCHID REVIEW

Edited by R. ALLEN ROLFE, A.L.S.

Contents.


| | PAGE |
|---|---|
| Amateur's Collection ... ... ... | 109 |
| Anguloa Clowesii ... ... ... ... | 105 |
| Anguloa virginalis ... ... ... ... | 106 |
| Answers to Correspondents ... ... | 128 |
| Brassocattleya Veitchii, Holford's var. ... | 112 |
| Calendar of Operations for April ... ... | 112 |
| Mischobulbum scapigerum ... ... | 127 |
| Orchid Notes and News ... ... ... | 128 |
| Orchid Portraits ... ... ... ... | 128 |
| Orchids in season ... ... ... ... | 127 |
| Plant Hybrids ... ... ... ... | 99 |
| Royal International Horticultural Exhibition ... ... ... ... ... | 107 |
| Societies— | 116 |
| Manchester and North of England Orchid ... ... ... ... ... | 121 |
| North of England Horticultural ... | 126 |
| Royal Horticultural ... ... ... | 116 |


ILLUSTRATIONS.


| | |
|---|---|
| Anguloa Clowesii ... ... ... ... | 105 |
| Brassocattleya Veitchii, Holford's var. ... | 112 |
| Cypripedium Chamberlainianum ... ... | 104 |
| Cypripedium niveum ... ... ... | 104 |
| Cypripedium Suttoniæ ... ... ... | 104 |


**PRICE SIXPENCE MONTHLY.** POST FREE 7/- PER ANNUM—SEE OVERLEAF.


# SANDER & SONS.

We receive fortnightly fresh consignments of the best

**OSMUNDA REGALIS FIBRE**

from our own freehold lands, situated in the best Osmunda producing territory of the United States of America. Price per bushel, **2/6**; per bag, **8/6.**

ROYAL WARRANT HOLDERS TO THE KING.

# Bull's Fumigating Compound.

No, 1 Bottle, **20s.**; ½ Gallon, **63s.**

THE MOST EFFICIENT AND ECONOMICAL.

ONCE TRIED BY AN ORCHID GROWER IS ALWAYS USED.

*Sole Manufacturers:*

**William Bull & Sons,**

**KING'S ROAD, CHELSEA, LONDON.**

# NOTICES

The ORCHID REVIEW is published regularly at the beginning of each month price 6d. net. Annual Subscription, post free, 7/-, payable in advance.

Volumes I. to XIX. can be supplied unbound at 6/-, or bound in cloth, 7/6, postage extra.—Cost of postage: book post, 9d. per volume; parcel post within the United Kingdom only, 5d. per single volume (series by weight).

Also cases for binding either volume at 1/6 each, post free throughout the postal union.

The ORCHID STUD-BOOK. By R. A. Rolfe and C. C. Hurst. By Parcel Post, 7/11. Abroad, by Book Post, 8/3.

All Subscriptions, Advertisements, Communications and Books for review, should be addressed:—The **Editor of the Orchid Review**, Lawn Crescent, Kew.

Cheques and Postal Orders (sent as above) should be made payable to FRANK LESLIE & Co., and, to ensure safety in transit, should be crossed "& Co."

*Agents for copies supplied through the Trade—*

**MARSHALL BROTHERS, Ltd.**, KESWICK HOUSE, PATERNOSTER ROW, LONDON, E.C.

## SCALE OF CHARGES FOR ADVERTISEMENTS.

| | £ | s. | d. |
|---|---|---|---|
| Five lines and under in column ... | 0 | 2 | 6 |
| Per line after ... ... ... ... ... | 0 | 0 | 6 |
| One-eighth column... ... ... ... | 0 | 4 | 0 |
| Quarter column or eighth page ... | 0 | 7 | 0 |
| Half column or quarter page ... | 0 | 12 | 0 |
| One column or half page ... ... | 1 | 2 | 6 |
| Whole page ... ... ... ... ... | 2 | 0 | 0 |

The Editor invites communications on interesting subjects (which should be written on one side of the paper only), also portraits, &c., of rarities.

Advertisements and late news should be received not later than the 24th of the month.


# CHARLESWORTH & Co.,

ORCHID RAISERS, GROWERS,
IMPORTERS AND EXPORTERS,

# HAYWARDS HEATH,

SUSSEX,

Invite their Patrons and Friends to pay them a visit of inspection at their New Establishment, ——————where may be seen the——————

## Finest Trade Collection of Orchids In Europe.

A Conveyance will be at the Railway Station to meet Visitors, upon notification being kindly given.

CONTINENTAL BRANCH—RUE GERARD, BRUSSELS.

Catalogue Post Free.

Telegrams:—Charlesworths, Haywards Heath.

Please Address—CHARLESWORTH & Co., Haywards Heath, Sussex.

# THE ORCHID REVIEW.

VOL. XX.] *APRIL*, 1912. [No. 232.

## OUR NOTE BOOK.

WE called attention at page 65 to a remark in the Report of the Council of the R.H.S. in which exhibitors and others are recommended to follow the Rules of Horticulture adopted by the Brussels Horticultural Congress, and we are glad to see the advice carried into practice in the last issue of the R.H.S. Journal. At page 249 of the proceedings we find the name of Sophrocattlælia used, instead of the clumsy old name Sophro-Lælio-Cattleya. The former name was adopted from our own pages, and we think should be written Sophrocatlælia, in accordance with the original spelling (*O.R.*, viii. p. 354), and with the list of generic hybrids (*O.R.*, xvi. p. 82) which was utilised when the list adopted in the said Rules was drawn up. The slip may have occurred through association with Brassocattlælia, but this was originally written Brassocatlælia (*O.R.*, vi. p. 46), and both we think should be written with a single "t", in accordance with the original idea, which was to compound a short euphonious name from the names of the parent genera, in harmony with the scheme of the late Dr. Maxwell T. Masters when compounding the name Philageria.

---

We hope that others will now fall into line, but we notice in the reports of the very last meeting of the R.H.S. the names Brasso-Cattleya, Lælio-Cattleya, and Brasso-Lælio-Cattleya, none of which are in accordance with the Rules under discussion, while the last-named is a complete innovation from every point of view. It is highly desirable that uniformity of practice should be secured, and even if it requires an effort to get used to the new rules the attempt should be made.

---

The *Field* of February 10th says: "We have on more than one occasion protested against the absurdly long, discordant names given by fanciers to Orchids. Here, for example, is one which has been branded on to a most beautiful Cattleya shown by Sir George Holford. It was certainly the most admired plant in the Show until its name was sought, and then the majority cried shame. Imagine any ordinary flower lover being told that the only name this Orchid had was Sophrolæliocattleya Marathon Vesuvius!

Yet Cattleya Vesuvius would serve all practical purposes, and we have a right to expect all horticulturists to be practical." But we may remind the *Field* that the plant is not a Cattleya, and it is not very practical to call a plant what it is not. It is a hybrid between a Sophrolælia and a Cattleya, and the Rules of Horticultural Nomenclature adopted by the Brussels Congress require that all such plants shall be called Sophrocatlælia (not Sophrolæliocattleya). The proper name of the plant is Sophrocatlælia Marathon var. Vesuvius, it being only a variety of the very variable Sophrocatlælia Marathon (Sophrolælia Psyche × Cattleya Frederickiæ), which appeared nearly four years ago. Is the *Field* prepared to ignore history in this fashion? and to inflict on us two erroneous names over a single plant? The *Field* must look up the new rules.

---

A remarkably fine Odontoglossum received a First-class Certificate at the last R.H.S. meeting under the name of O. crispum Samuel Gratrix. It is described as follows: "A grand variety, presumably a home-raised seedling from some finely blotched O. crispum. In shape it is one of the best shown. The sepals and petals are equally broad and beautifully marked with light violet colour. The large crisped labellum is white with some reddish purple blotches in front of the yellow crest." There can be no doubt about its beauty, but why should it be necessary to presume about its parentage? It ought to be known whether it is a home-raised seedling or not, and if so it ought to be possible to say something about its origin. We are getting far too many Odontoglossums of "unknown" and "unrecorded" parentage, and we have received another protest against the looseness with which records are now being kept, coupled with some strong language which we do not care to repeat. Our correspondent wishes us to make a strong appeal for some particulars of the origin of these doubtful forms, and we agree with him that there is no need to hide so much light under a bushel.

---

It is interesting to note that another plant of the rare and striking Neomoorea irrorata was exhibited at the last R.H.S. meeting, by Messrs. Charlesworth & Co. Several plants of it are now known, but it is not often seen in bloom. It was originally described over twenty years ago from a single plant which appeared at Glasnevin, and a figure afterwards appeared at t. 7265 of the *Botanical Magazine*. It was also given as the frontispiece of our twelfth volume.

---

Within two months we shall be in the midst of the great International Horticultural Exhibition, to be held in the grounds of the Royal Hospital, Chelsea, from May 22nd to 30th. The schedule shows that thirty-two classes have been set apart for Orchids. The usual showy groups are well

provided for, and there are classes for British Orchids; hardy terrestrial Orchids, British excluded; for Orchids of Botanical interest, not necessarily in flower; and, what should be specially interesting in view of recent developments, a class for Cochlioda hybrids. Some particulars were given at page 125 of our last volume, and we anticipate a very brilliant display, including some important continental exhibits. We hope that the Show may be favoured with fine weather, and that the event may prove a brilliant success. [Since the above was written we have received an important communication, which appears on another page].

## PLANT HYBRIDS.

NOTES of a lecture given at a meeting of the Kew Gardeners' Mutual Improvement Society held on February 19th, 1912, by Mr. R. Allen Rolfe, A.L.S.

A HYBRID is the result of crossing one species by another, the offspring being more or less intermediate between the two parents, or at least combining their characters. The object of hybridisation is to raise new and improved races of garden plants by combining the characters of distinct species or transferring desirable qualities. The earliest artificial hybrid recorded was raised by Thomas Fairchild, by crossing a Carnation with the pollen of a Sweet William, as recorded by Bradley in 1717, some forty years before Kölreuter began his long series of experiments. The practice of hybridising became general during the latter half of the eighteenth century, and has now been carried into almost every branch of horticulture, having become a very important industry, and the number of hybrids now in gardens is estimated at several thousands. But hybridisation has probably been practiced, consciously or unconsciously, for ages, for it is said that in the time of the Roman Empire Rose growers used to dust their flowers with pollen from another kind, and a similar process was probably adopted by early breeders of Tulips, Auriculas, &c., who made great secret of their methods. We have also the fact that the Chinese and Japanese have been raising various races of garden plants for centuries, though we have very meagre accounts of their methods.

Even before the sexuality of plants was known the advantage of planting different kinds together when new varieties were desired was recognised, and it was supposed that there was a subtle transfusion of qualities from one to the other. It is now, of course, understood that these varieties arose through interchange of pollen by insect agency, and one of the surprises of recent years has been the large number of spontaneous or natural hybrids in existence, sometimes quite unsuspected until some hybridist happens to raise the same thing artificially.

The late Mr. C. Wolley Dod carried on a very interesting experiment at Edge Hall, Cheshire. Hybridisation was not practiced, but for years

he never allowed a seedling to be destroyed in his herbaceous borders until its identity was known. In this way all spontaneous hybrid seedlings had a chance of developing. The result was the appearance of a large number of hybrids of the most diverse genera, even including a hybrid between the Madeiran Orchis foliosa and one of our European kinds, and all by the interchange of pollen by insect agency.

In the same way hybrids often occur in a state of nature where allied species grow intermixed. An enormous number of such plants are now known, though for a very long time botanists refused to recognise their existence, generally describing them as distinct species or as varieties of one or the other parent. Examples are common in Rosa, Salix, Epilobium, and numerous other genera, and in some cases have given rise to quite amusing discussions as to their identity. Among Orchids we may mention Odontoglossum, Cattleya, Dendrobium, Vanda, and even crosses between distinct genera, as Cattleya and Lælia, Cattleya and Brassavola, and between Orchis and Serapias and two or three other European genera. Hybridisation is largely a question of opportunity, and when species that will hybridise happen to grow together an interchange of pollen is sure to be effected by insect agency, and spontaneous or natural hybrids are the result. Such plants may often be recognised by their compound or intermediate character.

The term hybridisation is often loosely applied to cross-fertilisation generally, but should strictly be limited to cases where the two parents belong to distinct species or are themselves true hybrids, for the term hybrid implies the union of organisms that have different properties and characters, and is something deeper than the mere cross-fertilisation of forms or varieties of the same species.

Hybridisation consists in the application of the pollen of one species to the stigma of another, and the subsequent growth of the pollen tubes down the tissue of the style, and the fertilisation of the ovules; the process resulting in the union of two organisms having distinct ancestries, and thus showing intermediate characters or a combination of characters derived from the diverse parents. Hybrids from nearly-allied species usually exhibit a blend of the parental characters, but in those from widely-separated species one often finds a combination, the characters of one or the other parent being very marked in certain organs, and thus it is sometimes possible to trace the parentage unmistakably. In some cases the resemblance to one of the parents is very marked, the other being only traced with difficulty, a phenomenon to which the term dominance has been applied. It has probably some definate relation to the ancestry of the parents organisms, and may be considered as a form of reversion.

In the case of what are termed false hybrids the dominance is so

complete that the offspring entirely resemble the seed parent, as in the well-known case of *Zygopetalum Mackayi* when crossed with various genera, the cause of which is not understood, though there is at least the presumption that hybridisation proper may not have taken place, but that the ovules have developed parthenogenetically. In others, however, the resemblance is to the pollen parent, as in Epiphronitis Veitchii (Sophronitis grandiflora × Epidendrum radicans), which is almost identical with a dwarf Epidendrum in character, yet cannot be obtained from the reverse cross. As regards colour hybrids are often intermediate, but in some cases a mixture of the colours of the two parents is seen. A hybrid may be termed a mosaic in which every character of the two parents is represented in some form or another. Mixed characters are often found in hybrids where the parents have distinct kinds of hairs or other surface appendages, the two kinds often being found side by side in the hybrid.

There are hybrids of almost every degree of complexity. Primary hybrids are those directly obtained by crossing distinct species, and these are generally pretty uniform in character. Secondary, and more complex hybrids, on the contrary, even from the same capsule, often show a very wide range of variation. The cause of this can be traced to the fundamentally different nature of the reproductive cells in the two cases. In the case of species the reproductive cells—pollen and ovules—are uniform in character, but in that of hybrids the case is very different. Dissociation, through incompatibility of the original specific elements, has already taken place, the result being that the reproductive cells are not uniform in character, but represent the original specific elements in varying proportions, and thus the offspring of secondary crosses often shows the widest possible range of variation. This was remarked by Mr. Seden in the case of Læliocattleya fausta, the first secondary hybrid Orchid raised, when he told the late Mr. John Day that some of the seedlings most resembled their parents and some their grandparents.

When hybrids are fertile, as is very often the case among plants, they can be further intercrossed, and in this way there are hybrids in existence derived from three, four, five, and even six species, and the difficulty of identifying some of them can easily be imagined. In fact these complex hybrids often show a considerable amount of reversion, and if a hybrid, AB, is crossed with a third species, C, one may expect to find among the offspring forms approaching the hybrids AC and BC, owing to dissociation of the characters of the hybrid AB before uniting with C. Such plants are very difficult to identify when they occur wild, as was illustrated among forms of the remarkable Cypripedium aureum, and the fact shows the importance of keeping careful records, for it is not always possible to identify a hybrid from external appearance and in the absence of its history.

The mosaic character of hybrids is often illustrated in curious ways. A hybrid reproduced by self-fertilisation may show a wide amount of diversity among the offspring, owing to dissociation of the original specific characters, as in the case of Epidendrum kewense, or again by the appearance of "rogues," as they are called in horticultural practice. Dissociation may also occur in other ways. For example, Cypripedium Dauthieri, a form of C. Harrisianum, after long culture sported into a striped form, which was described by Reichenbach as variety Rossianum. Later on, this again produced a chlorotic form, or what is sometimes termed an albino, which was named variety Poggio Gherardo, from its place of origin, and this in turn sported to a curious harlequin-coloured form which was called variety Janet Ross, after the lady in whose collection it appeared. In another collection C. Dauthieri sported into what was called C. Dauthieri var. The Albino, while the original C. Harrisianum has sported into a green form called var. virescens. It is probable that what is termed "sporting" generally is due to the same cause, for it is usually seen among plants that have a mixed ancestry.

Graft hybrids, of which the curious Cytisus Adami is a familiar example, may be regarded as to some extent analagous with sexual hybrids, for they arise from new tissue formed at the junction between the stock and scion, and are due to blending of the two diverse ancestries. Moreover, dissociation of specific character also occurs, though not quite in the same way as is seen among sexual hybrids. It may be noted, however, that it has not yet been found possible to raise forms identical with graft hybrids by sexual process, but this may arise from mechanical difficulties connected with fertilisation, for when once united the diverse protoplasms are capable of living together.

The difficulty, sometimes amounting to impossibility, of hybridising certain plants arises in many cases from mechanical limitations, as is well illustrated by reciprocal crosses. Epiphronitis Veitchii can only be raised with Sophronitis as the seed bearer, and although several other generic hybrids have been raised with Epidendrum radicans as the pollen parent it has never been possible to obtain the reverse cross. Repeated efforts have been made to fertilise this Epidendrum with the pollen of Cattleya and Lælia, but always without success, and the difficulty is evidently of a mechanical nature.

Mechanical limitations may be of several kinds, and one which is very clearly indicated in the behaviour of reciprocal crosses is connected with the relative length of the styles of the two parents. Sophronitis grandiflora is not a good pollen parent, because of the short pollen tubes it develops. Messrs. Charlesworth once showed me a ripe capsule of a Cattleya fertilised with the Sophronitis, which had only matured seeds at the apex.

This was shown by dividing the capsule longitudinally, the fertilised seeds being marked by their quite different colour. All the lower part contained colourless empty chaff, and was now cut off and thrown away. On the other hand, Brassavola Digbyana is not a good seed parent, because of its very long beak above the ovary, and when so used one generally only finds good seeds at the apex of the capsule. Cochlioda Nœtzliana is a good seed parent, but its pollen usually fails to fertilise Odontoglossum, where the pollen tubes have a much longer column to traverse. The cause of such cases is clear, but it is believed that other limitations are connected with the relative sizes of the pollen tubes and the micropyle of the ovule, the former sometimes being too large to enter. This could only be demonstrated by microscopical examination. A third set of limitations is connected with the time required for the development of the ovules and pollen tubes after pollination.

The latter reveals a very remarkable condition of things. An Orchid flower is not mature on expansion, as in the case of a lily, as may be seen by cutting the ovary across, when the ovules are seen to be very minute and altogether undeveloped. Their development lags behind in a perfectly normal way, and only proceeds after and as the result of pollination, which introduces a totally new phase in the process of fertilisation. The result of pollination is immediately seen in the discoloration and withering of the floral segments and the thickening of the column. The pollen tubes now commence their growth down the tissue of the style, while the ovaries grow and mature. Both processes require a considerable time for their completion, varying from a week or ten days, in the case of the European terrestrial Orchids, to about three months in that of Cattleya Mossiæ, which latter has been worked out by Mr. Harry J. Veitch in an elaborate paper.

This development of the pollen tubes and ovules proceeds together, and when both are mature and fertilisation is effected—the capsule by this time appearing about half grown—the ovules then develop into seeds in the usual way. Now it is obvious that if plants were crossed whose pollen and ovules matured at relatively very different periods, fertilisation might fail because the pollen tubes matured before or after the ovules were ready, and thus fail at the critical period. It is often remarked that capsules go off when only half developed, or open somewhat later, and are found to contain nothing but chaff, and the cause of this is evidently due to the fact that fertilisation has not been effected. Pollination and fertilisation are totally different processes, and the stimulus to the development of the ovules may be given by many different kinds of pollen, which are afterwards utterly incapable of effecting their fertilisation.

Hybridisation and selection have been among the most potent causes of improvement of garden plants. One can hardly turn anywhere without

seeing the enormous progress that has been made, and among the most diverse groups. Among Orchids, which were once considered to be beyond the powers of the hybridist, but now constitute one of his favourite groups, we may mention Odontoglossum, Cypripedium, Calanthe, and Cattleya as illustrations. Hybridisation not only gives rise directly to new and highly decorative forms, but it also gives a stimulus to variation, and thus provides the materials on which selection can work. Some garden plants have been improved without hybridisation, but in such cases the first steps have usually been extremely slow, owing to the slight tendency to vary, but when this fixity of character has been broken by a few judicious crosses the rate of progress has been enormously accelerated. This tendency to vary is one of the most marked features of hybrids, so much so that when some fine hybrid has been obtained it usually becomes necessary to increase and

Fig. 14. CYPRIPEDIUM SUTTONIÆ.

Fig. 15. C. NIVEUM. Fig. 16. C. CHAMBERLAINIANUM.

perpetuate it by vegetative process. This, however, is impossible with annuals, and a process of selection has to be carried on, often for many generations, before its characters become fixed.

The lecture was illustrated by plants in flower of Cypripedium Suttoniæ and its two parents, C. niveum and C. Chamberlainianum (figured above), by drawings of some of the Orchids mentioned, and by specimens of numerous ordinary garden plants and their parents. Illustrations drawn from the latter have been omitted from these notes. The lecture was followed by an interesting discussion, in which many phases of hybridisation and its bearing on the evolution of garden plants were touched upon.

## ANGULOA CLOWESII.

The annexed figure represents a plant of the striking Anguloa Clowesii, sometimes known as the tulip Orchid, on account of its shape and bright yellow colour. The species has been known in cultivation for nearly seventy years, having been originally introduced by M. J. Linden, and

Fig. 17. Anguloa Clowesii.

flowered in the collection of the Rev. John Clowes, Broughton Hall, Manchester, in March, 1844. It was then described by Lindley (*Bot. Reg.*, xxx. Misc. p. 66), and afterwards figured (*l.c.*, t. 63), being dedicated to the gentleman in whose collection it first flowered. Linden has recorded that

he first detected it near the village of Jaji, in the province of Merida, in 1842, but it was afterwards gathered by Schlim near Ocana, and by Purdie at Santa Martha. It is said to extend along both sides of the eastern Cordillera from Santa Martha to Bogota, being abundant in some localities. It is interesting to note that A. Ruckeri and A. virginalis also appeared in M. Linden's original importation, the latter being the plant so long cultivated under the name of A. uniflora, but not the original A. uniflora, Ruiz and Pavon, with which A. eburnea, Williams, is now known to be identical. A. Clowesii var. eburnea, Veitch (*Man. Orch. Pl.*, ix. p. 100) is also the same species. The plant of A. Clowesii here figured was grown at Kew, and the photograph reproduced was taken by Mr. C. P. Raffill.

Some fine specimens of Anguloa Clowesii have occasionally been seen. A noble specimen from the collection of Major Joicey, Sunningdale Park, was recorded at page 232 of our tenth volume. It was grown in a 14-inch pot, and bore thirty-three flowers. It had been grown on by Mr. Thorne from a plant which eight years before received a First-class Certificate from the R.H.S., when in a 6-inch pot. The appearance of this plant recalled a still finer specimen from the collection of O. O. Wrigley, Esq., to which a Veitch Memorial Medal was awarded at Manchester in 1878. This is said to have been fully three feet across, and to have borne nearly fifty of its rich golden cups, a truly noble specimen and an example of good culture which has seldom been surpassed, for it had been grown on from one or two bulbs.

## ANGULOA VIRGINALIS.

THIS is the plant which has been cultivated for so long a period under the name of Anguloa uniflora, but which it was some time ago pointed out was not the original A. uniflora of Ruiz & Pavon (*O.R.*, xvii. pp. 316, 317). The species was introduced by M. J. Linden, and flowered in the collection of Mr. G. Barker, Springfield, Birmingham, in April, 1844, when Lindley unfortunately identified and figured it under the name of A. uniflora (*Bot. Reg.*, xxx. t. 60). The name A. virginalis appeared in 1851 (*Gard. Chron.*, 1851, p. 392), with the record that plants were sold at Stevens' Rooms at £2 to £3 5s. each. The plants may have been distributed by M. J. Linden, for the name appears on the tickets of his collector Schlim, who obtained plants at about 5000 feet altitude near Ocana, and the dried specimens agree completely with those previously collected by Linden. Soon afterwards plants of the same species collected by Warscewicz, near Quindios, were offered for sale, and one of these—a rosy spotted form—was figured in the *Botanical Magazine* (t. 4807) as A. uniflora. This latter agrees with A. Turneri, Williams (*Orch. Grow. Man.*, ed. 6, p. 133), but is only a form of A. virginalis, Linden, which is described on the same page.

Jameson also collected plants at 7000 feet altitude in the province of Loxa, and remarks that it "produces a flower which, from some fancied resemblance to a bull's head, has received the name of el Torito" (*Hook. Lond. Journ.* Bot., ii. p. 658). The species is widely diffused, from Venezuela to Ecuador and North Peru, and is easily distinguished from A. uniflora, Ruiz & Pavon (A. eburnea, Williams), by its smaller less globose flowers. The colour varies from ivory white and unspotted to blush heavily spotted with pink.—R. A. R.

## ROYAL INTERNATIONAL HORTICULTURAL EXHIBITION.

(Official).

### THE ORCHIDS.

As the time for holding this great exhibition draws near, it becomes possible to get some idea of the exhibits that will be displayed in the different sections. The scope of the schedule is so wide that provision is made for no fewer than 428 classes; many of them of a character to test the capacity of the most redoubtable exhibitor. The Orchid classes number thirty-two, and the entries show that there will be competition in most of them.

There are two entries in the amateurs' class for the best and most varied group of Orchids, arranged in a space not exceeding 500 square feet. These exhibits will occupy 1,000 square feet, and there are two valuable cups to be awarded to the competitors. In the nurserymen's class for similar groups there are are four entries for Sir George Holford's Cup; there will therefore be nearly 2,000 square feet of Orchids in this class.

Those who profess to despise hybrid Orchids in favour of the natural species and their varieties will be interested in Class 68, in which nurserymen will compete for the best and most varied group of species, and varieties of species, arranged in spaces not exceeding 200 square feet. Liberal provision, however, is made for the showy hybrids, which are due to patient and skilful cross-breeding, carried out in British and foreign hot-houses, Baron Bruno Schröder's presentation cup being offered for the best group of hybrids occupying a space of 200 square feet.

There is one entry in an open class for a group of the resplendent Lælias, Cattleyas, and Brassavolas—varieties and hybrids—in a space of 100 square feet; this exhibit will be amongst the most showy. More numerous entries are forthcoming in a class for the same type of plants where the specimens are limited to twenty-five, and again where the number must not exceed twelve. The effect of the scarlet Cochlioda Nœtzliana is manifest in the more brightly-coloured hybrids of Odontoglossum, and it is hoped that the exhibit will show what genera and species have been crossed with this gay little gem. Such information would be valuable, not merely to specialists, but to all interested gardeners.

Then there are classes for specimen Orchids in collections of 100 specimens, and others in which the specimens are limited to fifty, twelve, and six. There will be keen competition for the Silver Cup offered for the best specimen Orchid in the show. One exhibitor will contribute a group of Orchids in which the interest is botanical rather than decorative. The visitor will here be able to see the wonderful forms and devices exhibited by the different flowers, illustrating the numerous ways by which the important process of fertilisation is brought about, necessary for the perpetuation of the species.

We have as yet referred only to competitive Orchids, but these will not exhaust the exhibits of these marvellous flowers, for some of the most able amateurs and nurserymen will confine their efforts to exhibiting honorary collections. For instance, Sir George Holford, K.C.V.O., C.I.E., is expected to exhibit the largest group of Orchids an amateur has ever shown in this or any other country, and the excellent quality of the plants may be judged by previous exhibits from the Westonbirt collection.

It is a notable fact that in the Orchid section the number of entries from foreign Orchidists is very nearly one-half the number received from Britain. The exhibitors of Orchids are as follow :—

ARMSTRONG & BROWN, Tunbridge Wells, Kent.
BIRCHENALL, J., Alderley Edge.
CHARLESWORTH, MESSRS., Haywards Heath.
COLMAN, SIR JEREMIAH, Gatton Park, Reigate.
CYPHER, J. & SONS, Cheltenham.
DIXON, HARRY, Spencer Park Nursery, Wandsworth Common.
EVANS, J., Manor House, Key Green, Congleton.
FOWLER, J. GURNEY, South Woodford.
HASSALL & CO., Southgate, N.
HOLFORD, LIEUT.-COL. SIR G. L., Tetbury, GLOS.
JAMES, Mrs. Willie, West Dean.
COWANS, LTD., Gateacre, Liverpool.
LOW, STUART, & CO., Enfield.
LOW, E. V., Haywards Heath.
MACCARTNEY, J. Bolton.
MANSELL & HATCHER, Rawdon, Leeds.
OGILVIE, F. MENTEITH, Oxford.
RALLI, P., Epsom.
RAPHAEL, C. F., Shenley.
ROBERTS, J., Rotherham.
ROBSON, J., Altrincham.
ROTHSCHILD, LIONEL DE, Acton, W.
RUTHERFORD, COL. J., Blackburn.
SANDER & SONS, St. Albans.
WELLESLEY, F., Woking.

Foreign Exhibitors.

Arends, Mons. G., Nurseryman, Ronsdorf, Barmen.
Dietrich, E., Château du Val Duchesse, Bruxelles.
Graire, Mons., 5, Rue St. Fuscien, Amiens.
Jules, C. Hye de Crom, 8, Coupure, Gand.
Lambeau, F., Rue du Fosse aux Loups, 39, Bruxelles.
Manda, W. A., South Orange, New York.
Maron et Fils, Brunoy, France.
Muller, Abeken, G. H., Scheseningen.
Peeters, A. A. et Fils, Ancienne Chaussée de Meysse, Laeken, Bruxelles.
Regel, Dr. E., Botanic Garden, St. Petersburgh.
Vincke, A. H. & L., Scheepsdaele, Bruges.
Vuylsteke, Ch., Loochristi, Gand.

This great exhibition will take place in the spacious grounds adjoining the Royal Hospital, Chelsea. His Majesty the King will open the exhibition in person at noon on May 22nd, and it will remain open until May 30th.

Invitations to Jurors.

Invitations have just been issued to upwards of 350 specialists in every branch of horticulture to officiate as jurors at this great show. In awarding the prizes, British judges in every group will have the assistance of one or more foreign colleagues. R. Hooper Pearson, Hon. Press Secretary.

## THE AMATEUR'S COLLECTION.

By C. Alwyn Harrison, F.R.H.S.

### Cool House.

Slightly higher temperatures may be maintained this month than were advised in the March article, and with this increase in warmth, more air may be admitted, both through the top and bottom ventilators. It should be always carefully borne in mind that the occupants of a Cool Orchid house delight in pure fresh air, and as much as possible should be given throughout the year, although regulating the quantity admitted, so as not to allow the thermometer to register below the required height.

A few general notes on the watering of cool Orchids may be of value to the beginner. From now until the beginning of June, all plants which are in active growth, or in bud or flower, will require a good dose about three times a week, but for those which are at rest, twice a week is sufficient. Of course, the above hints must only be regarded as a rough guide, and less than the quantity suggested above will be needed if April prove cold and rainy. If fine and warm, fire heat may be dispensed with in this house at the latter end of the month, but should cold and dull weather continue, artificial heating should still be employed.

Ada aurantiaca, Cymbidium Lowianum, and many Odontoglossums should now make this house very gay, and if any plants of the second named Orchid need repotting, it should be performed after the flower spikes have been removed. When repotting Cymbidium Lowianum, or in fact any species or hybrid of that genus, plenty of pot room should be afforded, as they do not like frequent root disturbance. Place them well to one side in the new pot so as to allow for further growth, and set the base of the bulbs slightly above the rim of the pot. For compost, use a mixture of good yellow friable loam, sphagnum moss and osmunda fibre. These should be used in a damp state, and the plant made very firm.

Tie up flower spikes of Odontoglossums when they have attained the length of a few inches, as they are less liable then to be broken off. Pieces of cotton wool should be wrapped round the base of these to prevent their being eaten by slugs, for which this pest shows much relish. These wet days we are now experiencing can be profitably utilized by sponging the leaves of the Orchids, washing the pots and staging, and in cutting off dead leaves. Sophronitis grandiflora will have finished flowering, and can be repotted, for which use a mixture of chopped Osmunda fibre and sphagnum moss. Oncidiums Marshallianum and macranthum, if developing their flower spikes, should be stood well up to the light. Shade the house only when the sun shines directly upon it.

### CATTLEYA HOUSE.

As the weather is warmer, and the sun is gaining more power, it will be a matter of ease to maintain the temperatures which were advised last month, at the same time affording more air. The general rules for watering given in my last article, are also applicable at the present time, but I do not yet like using shading for this house, unless the sun is extremely powerful. The usual inmates of a Cattleya house are sun-loving subjects, and to attempt to cultivate them in gloomy surroundings always ends in failure. I may here remark that the plants in this house should never be grown so close together as may be done in a cool house. There should be a free circulation of air all round the pots containing Cattleyas, Lælias, &c.

This is now a very good time to obtain some imported plants of Dendrobiums and Vanda cœrulea, large quantities of both, having arrived this year. When a few plants have been received, they should be potted only in crocks, and kept just damp or lightly sprayed overhead until a start has been made. A little compost can then be given, removing the topmost crocks. I am not in favour of suspending the plants head downwards under the staging, a mode of culture often practised. From several experiments, I find that they start equally well if potted in crocks, and grown in a rational way. Should any established plants of Vanda cœrulea, Angræums, Aërides or similar Orchid require fresh moss, now is the best time to top-dress them.

Any Cattleyas, Lælias, or their many hybrids, which have passed out of flower may be repotted now, if required. Trim the plants with care, and do not set them too low in the new pot. The base of the bulbs should be half an inch above the rim of the pot. For soil use a mixture of A1 fibre and osmunda, with a few heads of sphagnum moss. Use these ingredients in a damp state, and pot moderately firmly. Any seedlings requiring a shift should be done now, before the weather gets too warm, otherwise they are apt to receive a check. Maintain a damp atmosphere in the house now onwards until October sets in, as this is the period of maximum growth.

### SUGGESTED ADDITIONS.

CATTLEYA HARRISONIANA.—For an amateur's collection this is a very suitable subject, being of easy culture and remarkably free flowering. The blossoms are smaller than in many other members of this genus, but are borne in large clusters, and well matured pseudobulbs bear from five to ten flowers. The sepals and petals are rosy lilac, and the lip white with a yellow disc. It lasts many days in perfection, and is of good constitution. Cattleya Loddigesii is very similar to the above, and is also suitable for an amateur's house.

ODONTOGLOSSUM ADRIANÆ.—This is a very pretty hybrid between O. crispum and Hunnewellianum, which first appeared as a natural hybrid. It is very variable, the ground colour of the sepals and petals being sometimes white, but often of various shades of yellow, in nearly all cases spotted with reddish brown. It is a cheap Orchid and remarkably floriferous; healthy, well-grown plants often carrying fifty or more of its attractive blossoms.

---

ODONTOGLOSSUM HELLEMENSE VAR. BUTLERI.—A four-flowered inflorescence of a handsome hybrid is sent from the collection of W. Waters Butler, Esq., Southfield, Edgbaston. It was purchased as a seedling, and until it flowered there was a little uncertainty as to which of two specified crosses it came from, but now the parentage can be given as O. loochristiense Vuylstekeanum × O. crispum Rossendale (the other cross being out of the question), and thus it is a variety of O. hellemense, which may be named as above. The details of the lip and its union to the base of the column strongly recall O. triumphans, except that the ground colour is more white. The sepals are bright red-brown, with a nearly white apex and a narrow margin of the same colour, while the petals are about twice as broad, well toothed and acuminate at the apex, and the colour deep red-brown, with the apex and a broad clearly-defined margin white. There is also a prominent white blotch at the base of the petals and dorsal sepal. The lip is yellow blotched with brown, and the column deep red-brown at the back, with broad, deeply-toothed wings.

## BRASSOCATTLEYA VEITCHII, HOLFORD'S VARIETY.

THE annexed figure represents a very beautiful Brassocattleya, from the collection of Lt.-Col. Sir George L. Holford, K.C.V.O., Westonbirt (gr. Mr. H. G. Alexander), which received a First-class Certificate from the R.H.S. on November 21st last. Its parents are Brassavola Digbyana and Cattleya Mossiæ Reineckeana, and the albinism of the latter has been

Fig. 18. BRASSOCATTLEYA VEITCHII, HOLFORD'S VAR.

carried on to the hybrid to a great extent, the ground colour of the flower being white with a greenish primrose disc to the lip, and a few rosy markings at the base. The flower is of excellent shape, and the lip broad and well fringed. It forms a charming companion to the chaste white Brassocattleya Veitchii var. Queen Alexandra.

## CALENDAR OF OPERATIONS FOR APRIL.

By J. T. BARKER, The West Hill, Hessle, E. Yorks.

THE temperatures of the different houses may now be raised five degrees higher than the figures given in the January number, except in the case of the Cool house, which should be kept as near the same figures as possible. As regards temperatures, no harm will occur with slight variations, but drastic ones are most harmful.

WATERING.—With the brighter days our plants will take more water, but it will have to be applied with discretion, and the remarks made last month, under this heading, still apply.

VENTILATION, with a milder outside temperature, can be more liberal, and I am a firm believer in fresh air for our plants, therefore every opportunity should be taken of admitting it. It must, however, be done judiciously, and with caution.

SHADING, during this often fickle month, will demand great attention, as, after the very dull and wet season which we have passed through, the plants will not be able to withstand much strong sunshine. They must be gradually inured to the increased light, so that the young leaves are capable of withstanding it, and so that the new growths are consolidated and strengthened as they are made.

CYPRIPEDIUMS that have passed out of bloom, and require repotting, should be attended to as soon as possible, so that their growing season may not be unduly curtailed. As soon as they are all finished, it is advisable to overhaul and thoroughly clean them before putting them in their summer quarters. Each plant should have room to develop its growth, as, with proper care and attention, they should not require overhauling again till the autumn.

CŒLOGYNE CRISTATA and its varieties which have been resting, according to my remarks last month, will now be making new growths and new roots, and, if necessary, they should be repotted. Any plants that are in good condition should not be interfered with, as this Cœlogyne resents being disturbed at the root to a very great degree, and often suffers considerably. The compost I recommend for them consists of equal portions of peat, osmunda, loam fibre, and sphagnum moss, well mixed together. Other species of Cœlogyne which may also have attention at this season, should they require it, are C. flaccida, C. conferta, C. elata, C. speciosa, C. Micholitzii, C. corrugata, and others. The whole of these delight in an Intermediate house temperature, and, when well established, an abundant supply of water at the roots. C. Dayana, C. asperata and others which are showing for flower, may have more water at the root.

CATTLEYAS, LÆLIAS and LÆLIOCATTLEYAS.—As these beautiful Orchids

pass out of flower and are seen to be making new roots, they may be repotted, if the compost in which they are growing is exhausted, or the plant requires a larger receptacle. Those plants which flowered during the winter months should have attention as soon as it is observed that they are beginning to push new roots. C. Lawrenceana, pushing up its flower spikes, should be kept in a fairly dry position, and only given enough water to keep the compost moist, and prevent the bulbs from shrivelling. After the flowers have faded, and the plant is seen to be pushing roots, it may have attention. This plant, when at rest, requires a warm, light position. If placed in a humid, cold atmosphere, the leaves turn black, and the bulbs decay. The present is a good season to repot any seedlings of either of the above families, as they get nicely established before the hot weather is upon us.

LÆLIA ANCEPS and its varieties that require repotting should be finished as soon as possible, as they require a long season of growth, and take some little time to re-establish themselves after being disturbed.

DENDROBIUMS.—For some time past the members of this large family of Orchids have been a prominent feature in our houses. Many of the earliest plants to flower are now developing their new growths, which will produce new roots when they attain a few inches in height. This is the best season to supply fresh rooting material to any requiring it. They may be grown in either pots, pans, or baskets, according to their character, and a suitable compost consists of equal portions of peat, polypodium and osmunda fibres, and sphagnum moss. The pots and pans must be well drained, and no water should be given until the new roots are seen to be pushing through the compost. The plants may be slightly sprayed overhead on bright days, but this must be done with discretion, as if the water is allowed to lodge in the young growth it will decay, which is a great check to the plant.

CATASETUMS, CYCNOCHES, and MORMODES.—As soon as the young growths are seen to be pushing from the base of the pseudobulbs of any member of either of the above families they should be repotted. They are best done annually, and a suitable compost is the one used for Cattleyas. The pots must be well drained, and the plant potted moderately firmly, and the long, heavy pseudobulbs neatly tied to a stake to keep them secure. For some time after repotting no water will be required, providing the compost is moist when they are done, as should it become wet there is great danger of losing the young growths. The plants should be grown close to the glass in the warmest house, and when in active growth they require a liberal supply of water. The plants should be rested with the Dendrobiums, and only have sufficient water to prevent the pseudobulbs from shrivelling.

Odontoglossums.—Any plants of Odontoglossum crispum or its hybrids which require repotting, from any cause, may have attention when their young growths are a few inches long, and about to push roots. Plants repotted at this season must have extra attention as regards watering and shading. O. citrosmum, having been resting in the cool Intermediate house, will now be pushing up its flower spikes from the centre of its young growths, and the plants so doing may be given more water, but no water must be allowed to enter the young growth, or much harm will accrue.

Oncidiums.—O. varicosum, and other late-flowering species, will now be starting into growth, and when young roots are observed to be pushing from their base fresh rooting material should be given to any that may require it. They will succeed in the same compost as Odontoglossums, but a more liberal supply of half-decayed oak leaves may be given to them. O. Marshallianum, O. concolor and others now developing flower spikes require a moderate supply of water at the roots. Oncidiums, when in full growth, and nicely rooted in the compost, delight in abundance of moisture at the root and in the atmosphere. Like all Orchids, they must be watered with care, until the new roots are well established in the compost.

Aërides, Saccolabiums, and Angræcums that require new compost should be attended to at once, for, with the increased amount of daylight and sun heat, they will rapidly push forth new roots, and as the growing points of these are very tender, and easily broken, it is advisable to get them done before there is any danger of this occurring. Place them in well-drained pots, using a compost of equal portions of osmunda fibre and sphagnum moss.

Renanthera Imschootiana, now pushing up its flower spikes, may have a more liberal supply of water to the roots. This plant succeeds best when grown near the glass in an Intermediate house, and delights in a supply of fresh air at all times.

Miltonia vexillaria, now pushing up its flower spikes, must not be allowed to suffer for want of water at the root, neither should the plants receive it in such quantities as to destroy the young roots pushing from the base of the half-made pseudobulb. Any flower spikes entrapped between the leaves, by the leaves adhering to each other, should be carefully liberated, or else they will become distorted, and, in many cases, break themselves in two. M. Bleuana and other hybrids of M. vexillaria have rather an irregular flowering period, and where a quantity of plants are grown there will nearly always be some in flower, or showing for flower, The conditions advised for M. vexillaria will answer their requirements, with the exception that they like a little more warmth. Thrip and other pests, which are very persistent in attacking these plants at this season of

the year, must be eradicated, as if allowed to get established the foliage will be seriously damaged.

GENERAL REMARKS.—If the ends and the sides of the houses have not already been shaded, no time must be lost in doing this, as the sun will now have great power. Keep the glass of the houses scrupulously clean, so that all the light possible may be admitted. Watch carefully for thrip, which, at this season especially, will often put in an appearance. All other pests, of whatever description, must continually be sought for. In all branches of plant cultivation every means possible should be taken in preserving the foliage in a clean and healthy condition. Work will come on apace this month, and we shall find our time fully occupied in attending to the wants of the different plants as regards potting, cleaning, and other things which occur to us as cultivators.

## SOCIETIES.

### ROYAL HORTICULTURAL.

A MEETING was held at the Royal Horticultural Hall, Vincent Square, Westminster, on February 20th, when there was a remarkably fine display of Orchids, including ten medal groups, three Awards of Merit and one Cultural Commendation being also given.

Orchid Committee present: J. Gurney Fowler, Esq. (in the Chair), and Messrs. J. O'Brien (hon. sec.), Harry J. Veitch, Gurney Wilson, J. S. Moss, Stuart Low, R. G. Thwaites, T. Armstrong, A. A. McBean, J. Charlesworth, J. Cypher, J. E. Shill, W. H. Hatcher, C. H. Curtis, W. P. Bound, A. Dye, W. H. White, R. Brooman White, W. Bolton, de Barri Crawshay, C. J. Lucas, H. G. Alexander, R. A. Rolfe, Sir George L. Holford, and Sir Jeremiah Colman.

Lt.-Col. Sir George L. Holford, K.C.V.O., Westonbirt (gr. Mr. H. G. Alexander), staged a magnificent group, to which the Society's Gold Medal was awarded. It contained a very fine series of Lælia anceps, especially the white varieties, including Dawsonii with eight spikes and alba with nine, some fine forms of Cattleya Trianæ, C. Percivaliana alba and Charlesworthii, C. chocoensis alba Westonbirt var., some fine dark Cattleya Raphaeliæ and others, the clear yellow and white Cypripedium Actæus Undine, and many other fine Cypripediums, Læliocattleya Tigris, Westonbirt var. (L. Cowanii × L.-c. Dominiana), and many other finely grown Læliocattleyas, some excellent Brassocattleyas, Sophrocatlælia Danæ Holford's var., Sophrolælia læta Orpetiana Sophrocattleya Chamberlainii, Miltonia Bleuana, Oncidium splendidum, Vanda Watsonii and Amesiana, Odontioda Devossiana, Odontoglossum crispum Peacock, with a spike of thirteen handsomely blotched flowers, the beautiful O. armainvillierense xanthotes, and others too numerous to mention.

Sir Julius Wernher, Bart., Luton Hoo (gr. Mr. Metcalfe), received a Silver Banksian Medal for a group of finely grown Calanthe Regnieri and C. Baron Schröder.

Walter Cobb, Esq., Normanhurst, Rusper (gr. Mr. C. J. Salter), sent a good form of Odontoglossum blandum, Cattleya Trianæ Cobbii, Cypripedium Euryades Cobb's var., with two dorsal sepals, Odontioda Bradshawiæ Cobb's var., and Sophrolælia Psyche.

Sir Jeremiah Colman, Bart., Gatton Park (gr. Mr. J. Collier), sent the rare Bulbophyllum nigripetalum, Dendrobium Lady Colman, D. Golden Ray, and D. Margery Tyrrel Giles.

De Barri Crawshay, Esq., Rosefield, Sevenoaks (gr. Mr. Stables), sent Odontoglossum Valeria (Edwardii × Vuylstekei), O. Galba (sceptrum × armainvilierense), with sceptrum-like lip, O. Voluminia (spectabile × Vuylstekei), and O. Xerxes (Vuylstekei × illustre), a very richly-coloured flower of good shape.

F. Ducane Godman, Esq., Horsham, sent Odontoglossum Godmanii (Rolfeæ × Edwardii).

H. Jennings, Esq., Marlowes, Hemel Hempstead, sent Cypripedium Winnifred Jennings, a large dark-coloured flower.

Sir F. W. Moore, Royal Botanic Garden, Glasnevin, sent a fine spike of Cœlogyne venusta.

The Hon. Lady Neeld, Grittleton (gr. Mr. J. Pitts), showed Odontoglossum Fascination (Fascinator × Ossulstonii), a richly-coloured flower.

W. R. St. Quintin, Esq., Scampston Hall, Rillington (gr. Mr. F. C. Puddle), sent a pretty white form of Dendrobium Cybele.

Messrs. Charlesworth & Co., Haywards Heath, staged a very choice group, including a dozen plants of the beautiful Odontoglossum armainvillierense xanthotes, and about twice as many brilliant Odontiodas, with Miltonioda Ajax, Odontoglossum Rossii × armainvillierense, a very pretty hybrid, a fine O. Wilckeanum, some good Cattleya Trianæ, C. Suzanne Hye de Crom, some good Brassocattleyas, and other fine things (Silver-gilt Flora Medal).

Messrs. Armstrong & Brown, Tunbridge Wells, staged a fine group, in which the beautiful Cattleya Raphaeliæ alba was well represented, with forms of C. Trianæ, the bright yellow Læliocattleya Ernestii, L.-c. Myra and others, Cymbidium insigne, some good white Lælia anceps, Sophronitis grandiflora, Dendrobium æmulum, D. nobile virginale, Bulbophyllum galbinum, Odontoglossum Rolfeæ and some fine forms of O. armainvillierense, Odontiodas, Cypripedium Venus, Orchidhurst var., Masdevallia Schrœderiana, and others (Silver Flora Medal).

Messrs. James Cypher & Sons, Cheltenham, staged a fine group of Cypripediums, Calanthes, Dendrobiums, Sophronitis grandiflora, Masdevallia

macrura and others, some good Lælia anceps, Odontoglossum Vuylstekei and McNabianum, Lycaste Skinneri alba, &c. (Silver Flora Medal).

Messrs. Stuart Low & Co., Enfield, staged a fine group, including some good Odontoglossums, Cypripediums, Brassocattleyas, Lælia anceps, Dendrobiums, Oncidium cheirophorum and others, Ionopsis paniculata, some good Trichopilia suavis, Renanthera Imschootiana, a fine Agræcum sesquipedale, Phalænopsis Schilleriana, &c. (Silver Flora Medal).

Messrs. J. & A. A. McBean, Cooksbridge, staged a fine group, in which white forms of Lælia anceps were well represented, with some good Odontoglossums, Odontiodas, one of them flowering when $3\frac{1}{2}$ years old, Cymbidium eburneum, C. Veitchii, Sophrocatlælia Marathon, Cattleya chocoensis alba, Lycaste Skinneri, and some good Cypripediums (Silver Flora Medal).

Messrs. Sander & Sons, St. Albans, staged a very effective group, including many fine Phalænopsis Schilleriana, Cypripedium caudatum Sanderæ, Dendrobium superbiens, D. velutinum, Pleurothallis Roezlii, a home-raised Odontoglossum elegantius, Cattleya Trianæ, Læliocattleyas, Saccolabium violaceum Harrisonianum, &c. (Silver Flora Medal).

Mr. E. V. Low, Vale Bridge, Haywards Heath, sent a small group of good things, including Cymbidium insigne with five spikes, Lycaste Skinneri Emperor, Cypripedium aureum Surprise, C. Simonii, The Mousmé (insigne Harefield Hall var. × Leeanum Clinkaberryanum), a very fine thing, and others (Silver Banksian Medal).

Messrs. Mansell & Hatcher, Rawdon, E. Yorks, sent an interesting little group, including a fine Phalænopsis Schilleriana, Vanda Moorei, Cirrhopetalum picturatum, some good Odontoglossums, Angræcum citratum, Listrostachys bistorta, Ionopsis paniculata, Læliocattleyas, &c. (Silver Banksian Medal).

Mr. W. A. Manda, St. Albans, sent Cattleya Schrœderæ aurantiaca and three good forms of Cattleya Trianæ.

Mr. H. A. Tracy, Twickenham, sent Odontoglossum Pescatorei Floryi, a pretty form, with red-purple spots near the base of the segments. It is said to have come out of the same batch as O. P. Sanderæ.

### AWARDS OF MERIT.

CALANTHE BARON SCHRÖDER VAR. ALBIFLORA.—A fine form, with pure white sepals and petals, and a rose-pink lip with a darker centre. The plant bore two very fine spikes. Exhibited by Baron Bruno Schröder, The Dell, Englefield Green (gr. Mr. J. E. Shill).

CATTLEYA BRENDA (Dusseldorfii Undine × Gaskelliana alba).—A fine white flower, most like the former in shape, but larger and with all the segments broader. Exhibited by Lt.-Col. Sir George L. Holford, K.C.V.O.

ODONTOGLOSSUM VULCAN (crispum × Vuylstekei).—A very fine hybrid,

with light yellow flowers, much blotched with red-brown. The plant also carried two fine seed capsules. Exhibited by de Barri Crawshay, Esq.

CULTURAL COMMENDATION.

LYCASTE BALLIÆ.—To Mr. F. J. Thorne, gardener to Mrs. W. J. Joicey, Sunningdale Park, for a fine plant with over thirty flowers. It has been grown on from a small piece.

---

At the meeting held on March 5th there was a very fine display of Orchids, including eight Medal groups, other awards consisting of two Cultural Commendations, and two Awards of Merit.

Orchid Committee present: J. Gurney Fowler, Esq. (in the Chair), and Messrs. J. O'Brien (hon. sec.), Harry J. Veitch, Gurney Wilson, Stuart Low, R. A. Rolfe, R. G. Thwaites, T. Armstrong, A. A. McBean, W. Cobb, J. E. Shill, J. Charlesworth, H. G. Alexander, J. Cypher, W. H. Hatcher, W. P. Bound, A. Dye, Clive Cookson, W. H. White, C. J. Lucas, J. S. Moss, Lieut.-Col. Sir George L. Holford, de Barri Crawshay, and Sir Jeremiah Colman, Bart.

Lieut.-Col. Sir George L. Holford, K.C.V.O., Westbonbirt (gr. Mr. H. G. Alexander), staged a magnificent group, to which a Gold Medal was awarded. It contained a fine lot of Cattleya Trianæ varieties, C. Dusseldorfii Undine, C. Brenda, a fine albino raised from the latter, and C. Gaskelliana alba, many beautiful white forms of Lælia anceps, a fine series of Læliocattleyas and Brassocattleyas, some good Phalænopsis Schilleriana, one spike bearing as many as eighty-four flowers, many beautiful Odontoglossums, Sophrocatlælia Medeia, Sophrolælia Psyche with fifteen flowers, Oncidium cucullatum, Cœlogyne sparsa, Dendrobiums, and others too numerous to mention.

Sir Jeremiah Colman, Bart., Gatton Park, Reigate (gr. Mr. J. Collier), sent a number of well-grown Dendrobiums, including the beautiful D. Lady Colman, three examples of D. Golden Ray, D. Cybele, Gatton Park var., D. Rubens, and others (Silver Banksian Medal).

J. Gurney Fowler, Esq., Glebelands, S. Woodford (gr. Mr. J. Davis), sent Cattleya Schrœderæ var. Louisa, a pretty pink form with a crimson blotch on the lip.

H. F. Goodson, Esq., Putney (gr. Mr. G. H. Day), sent Odontoglossum armainvillierense Dayanum, a pretty claret-purple form, with white margins and tips to the segments, Odontioda Diana, Goodson's var., and several others.

M. Comte Joseph de Hemptinne, St. Denis-Westrem, Belgium, sent Cattleya Trianæ alba Edelweiss, a large and beautiful albino.

Sir Trevor Lawrence, Bart., K.C.V.O., Burford, (gr. Mr. White), sent a fine specimen of Cymbidium Colmaniæ, Edenside var., with several spikes.

The Duke of Marlborough, Blenheim (gr. Mr. G. Hunter), sent a pretty hybrid between Cattleya Harrisiæ and Lælia purpurata.

The Hon. Lady Neeld, Grittleton, sent Odontoglossum percultum var. Carmania, a large white flower spotted with purple.

F. M. Ogilvie, Esq., The Shrubbery, Oxford (gr. Mr. W. Balmforth), showed Cypripedium Euryades rubrum, and a pretty hybrid between Odontoglossum cirrhosum and O. armainvillierense.

Messrs. Armstrong & Brown, Tunbridge Wells, staged a very fine group of over thirty-five feet frontage, including a beautiful series of Dendrobiums, the best being D. nobile virginale magnificum and D. n. Armstrongiæ, Brassocattleyas, Odontoglossums and Cypripediums, Miltonia Bleuana, Cymbidium Ballianum, Armstrong's var., Masdevallias, &c. (Silver-gilt Flora Medal).

Messrs. James Veitch & Sons, Chelsea, staged a fine group, including Brassocattleyas, Odontoglossums, Cypripediums, Læliocattleya Orama (Dominiana × bletchleyensis) and others, Cattleya Trianæ Courtauldiana, the brilliant Odontioda Diana, and a pan of the pretty little Disa sagittalis (Silver Flora Medal).

Messrs. James Cypher & Sons, Cheltenham, staged a fine group of Cypripediums, Odontoglossums, Zygopetalum crinitum, Angræcum citratum, the rare Masdevallia gargantua, Cymbidium Ballianum, Odontiodas, Lycastes, and others (Silver Banksian Medal).

Messrs. Hassall & Co., Southgate, staged a fine group, containing several well-grown Angræcum sesquipedale, Cattleya Frederickiæ, and C. Mendelii Diana, Odontoglossum armainvillierense, O. eximium, O. Cooksoniæ, several Miltonia Warscewiczii, &c. (Silver Banksian Medal).

Messrs. Stuart Low & Co., Enfield, staged an interesting group, including some good Cattleya Schrœderæ and Trianæ, Cymbidium insigne, Renanthera Imschootiana, Phalænopsis Schilleriana, Dendrobiums, Polystachya paniculata and Laurentii, Cœlogyne pandurata, &c. (Silver Banksian Medal).

Messrs. Sander & Sons, St. Albans, staged a fine group, including some good Cattleya Trianæ, the rare Houlletia Sanderi, Odontoglossums, Cypripediums, Maxillaria picta, a well-bloomed Cœlogyne flaccida, Dendrobium velutinum, Renanthera Imschootiana, Eulophia lurida, Trichosma suavis, &c. (Silver Banksian Medal).

Messrs. Charlesworth & Co., Haywards Heath, staged a select group, including Brassocattleya Veitchii Queen Alexandra, Læliocattleya Ixion (C. Octavia × L.-c. Myra), Miltonia Bleuana nobilior, Cattleya Trianæ alba, C. Octavia, some good Odontoglossums, and others.

Messrs. W. B. Hartland & Sons, Cork, sent a small group of Cattleyas, Cypripediums, Cymbidiums and Odontoglossums, particularly interesting

among the latter being O. Brayanum (Groganiæ × Harryanum), a reddish purple flower with whitish margins and tips to the segments.

Mr. E. V. Low, Vale Bridge, Haywards Heath, showed Odontoglossum The Premier (parentage unrecorded), a finely blotched flower.

Messrs. J. & A. A. McBean, Cooksbridge, sent the pretty Dendrobium amethystoglossum and a few Odontoglossums.

### Awards of Merit.

Dendrobium Golden Ray var. superbum (Othello var. Colmaniæ × signatum aureum).—A very fine form, having buttercup yellow flowers tipped with rose, and a claret-coloured disc to the lip. Exhibited by Sir Jeremiah Colman, Bart.

Odontoglossum Jasper (crispum × amabile).—A very pretty hybrid, regularly spotted with reddish purple on a pale pink ground. Exhibited by John S. Moss, Esq., Wintershill, Bishops Waltham (gr. Mr. Kench).

### Cultural Commendations.

Angræcum sesquipedale.—A very fine specimen, bearing twelve expanded flowers and five buds. To Mr. J. Carpenter, gardener to F. C. Stoop, Esq., West Hall, Byfleet.

Cymbidium grandiflorum.—A strong specimen, bearing two fine flower-spikes. To Mr. J. Collier, gardener to Sir Jeremiah Colman, Bart.

---

## MANCHESTER AND NORTH OF ENGLAND ORCHID.

At the meeting held at the Coal Exchange, Manchester, on February 8th, the members of Committee present were:—Rev. J. Crombleholme (in the Chair), R. Ashworth, W. R. Lee, C. Parker, H. Thorp, Z. A. Ward, J. C. Cowan, J. Cypher, J. Evans, W. Holmes, A. J. Keeling, D. McLeod, W. Stevens, and H. Arthur (Secretary).

Z. A. Ward, Esq., Northenden (gr. Mr. Weatherby), staged a fine group, composed principally of well-grown Odontoglossums, with a few good Cypripediums, and a nice variety of Lycaste Skinneri (Silver-gilt Medal).

W. R. Lee, Esq., Heywood (gr. Mr. Branch), staged a nice group of choice Odontoglossums, Miltonia Bleuana, Dendrobiums, Brassocattleya Maronii, and Cypripediums, C. Troilus var. Cravenianum being very fine (Silver-gilt Medal).

R. Ashworth, Esq., Newchurch (gr. Mr. Gilden), staged a nice group of Odontoglossums, Dendrobiums, Cattleya Trianæ, Miltonia Bleuana, Lycaste aromatica, and the choice Cymbidium Holfordianum (Silver Medal).

Col. J. Rutherford, M.P., Blackburn (gr. Mr. Lupton), staged a group of Cypripediums and Odontoglossums, including some very nice blotched O. crispum, O. c. Luci-Masereel, and some nice plants of O. Rossii majus (Silver Medal).

A. Warburton, Esq., Haslingden (gr. Mr. Dalgleish), staged a choice

group of Odontoglossums and Cypripediums, making a fine display (Silver Medal).

Rev. J. Crombleholme, Clayton-le-Moors (gr. Mr. Marshall), staged a small group of Cypripediums and Odontoglossum crispum (Bronze Medal).

J. McCartney, Esq., Bolton (gr. Mr. Holmes), staged a group of Cattleya Holmesii and Trianæ, Lælia anceps, Læliocattleya Cranstounii, Dendrobium nobile Balliæ, Calanthe Wm. Murray, and Cypripediums (Bronze Medal).

W. J. Hargreaves, Esq., Burnley, staged a small group of choice Cypripediums (Bronze Medal).

J. J. Holden, Esq., Southport (gr. Mr. Johnson), sent a fine, well-flowered plant of Lycaste Mary Gratrix.

G. H. Peace, Esq., Monton Grange (gr. Mr. Mace), staged Odontoglossum Phœbe Monton Grange var., with a fine branched spike.

H. Thorp, Esq., Rhodes, sent a variety of Cypripedium insigne.

Messrs. J. Cypher & Sons, Cheltenham, staged a nice mixed group, including Lælia anceps Barkeri and Sanderiana, Brassavola Digbyana, Brassocattleya Maronii, Cattleyas, Læliocattleyas, Cypripediums, and Calanthes (Silver Medal).

Messrs. Sander & Sons, St. Albans, staged a nice group, including Cattleya Trianæ vivicans and Corona, Brassocattleya Fournieri picturata, B.-c. Sirius, and some good Cypripediums (Silver Medal).

Messrs. Hassall & Co., Southgate, staged a few good Odontoglossums, Cypripedium aureum The Pearl, and Lycaste Skinneri alba.

Messrs. A. J. Keeling & Sons, Bradford, staged a few good Odontoglossums.

Mr. W. Shackleton, Great Horton, staged three plants of Odontoglossum crispum, one very fine variety having large white flowers.

### FIRST-CLASS CERTIFICATES.

Odontoglossum percultum var. purpurascens, a fine round flower of solid bronze purple colour, edged with white; from W. R. Lee, Esq.

Odontioda Bradshawiæ, Warburton's var.; from A. Warburton, Esq.

### AWARDS OF MERIT.

Odontoglossum crispum Euterpe, a nice variety, and bright in colour; from W. R. Lee, Esq.

Odontoglossum Wilckeanum var. Jasper, a fine large flower, O. Adrianæ var. Vulcan. a dark-spotted variety, and O. Jasper; from Z. A. Ward, Esq.

Cypripedium birkdalense (insigne Sanderianum × Thalia magnificum), a fine flower, showing both parents; from J. J. Holden, Esq.

Cypripedium Hercules (Vandyke × Sultana), C. Draco (insigne × Euryades), and C. Nubia (Niobe, Westonbirt var. × Thompsonii), all fine varieties; from Wm. Thompson, Esq.

Odontoglossum orphanum, a brilliantly-coloured form of unknown parentage, from R. Ashworth, Esq.

Cypripedium Lucernale (chrysotoxum × Euryades splendens), a very fine, well spotted form; from A. Warburton, Esq.

---

THE meeting held on Thursday, February 22nd, was a joint meeting with the North of England Horticultural Society, the following gentlemen constituting the Committee on the occasion:—Rev. J. Crombleholme (in the chair), Messrs. J. Bamber, C. Parker, W. Thompson, A. Warburton, Z. A. Ward, W. Bolton, J. C. Cowan, J. Cypher, J. Evans, W. Hatcher, W. Holmes, A. McBean, A. J. Keeling, D. McLeod, F. K. Sander, W. Stevens and H. Arthur (Secretary), with the Rev. J. Bernard Hall, Secretary of the N.O.E.H.S.

The proposal to hold a joint meeting met with great success, there being no fewer than 20 groups staged, and 26 exhibitors in all. Medals, Certificates and Diplomas were awarded by both Societies; the list of awards made by the N.O.E.H.S. will appear in the next Journal issued by them.

The Lancashire County Trophy, a magnificent piece of silver, raised by subscription in the county, to be competed for at the International Show in London, in May, 1912, was on exhibition, and was very much admired. The following awards were made by the Orchid Society's Committee:—

Z. A. Ward, Esq., Northenden (gr. Mr. Weatherby), was awarded a Gold Medal for what was generally acknowledged to be the finest group of mixed Orchids that has hitherto been seen in the room, the Odontoglossums being splendidly grown. It included O. excellens, amabile, vars., Mrs. Whitmoyer and Edith, Lawrenceanum, loochristiense splendens, ardentissimum; Odontiodas Wardii, heatonense, and Goodsonii; Lycastes in variety, Dendrobiums Wardianum and splendidissimum, Phaius grandifolius, Brassia verrucosa and Cymbidium Lowianum.

O. O. Wrigley, Esq., Bury (gr. Mr. Rogers), was also awarded a Gold Medal for the finest exhibit of Lycaste Skinneri ever seen in the district, about 50 being staged, all fine well-grown plants, carrying some marvellous flowers—alba, with 31 flowers and buds, Loveliness, Rainbow, ingens, Glory, rosea, Goliath, delicatissima, Hecate, virginalis, and Beauty, with L. lasioglossa, Balliæ, Tunstillii, and Imschootiana.

W. R. Lee, Esq., Heywood (gr. Mr. Branch), was awarded a Silver Medal for a nice mixed group, including Odontoglossum crispum and hybrids, Cypripediums in variety, and some good examples of the brilliant Sophronitis grandiflora.

R. Ashworth, Esq., Newchurch (gr. Mr. Gilden), was awarded a Silver Medal for a group, consisting principally of Odontoglossums, Lælio-cattleyas, Cypripediums and Dendrobiums.

Dendrobium Othello, West Point var.; from S. Gratrix, Esq.

Cypripedium Archimedes nigrum; from A. Warburton, Esq.

Brassolælia Leeana (L.-c. Hyeana splendens × B.-c. heatonensis), and Brassocattleya Pocahontas albens; from Messrs. Cypher & Sons.

Sophrocatlælia Marathon var. Salome; from Messrs. J. & A. A. McBean.

Cypripedium Simonii var. The Mousmé; from Mr. E. V. Low.

---

## NORTH OF ENGLAND HORTICULTURAL.

The following awards were made by the Orchid Committee at the combined meeting held at Manchester on March 22nd last:—

Gold Medals to Z. A. Ward, Esq., Northenden (gr. Mr. Weatherby), and to O. O. Wrigley, Esq., Bury (gr. Mr. Rogers).

Silver-gilt Medals to Messrs. Charlesworth & Co., Haywards Heath; Messrs. W. A. Manda, St. Albans, and Messrs. McBean, Cooksbridge.

Silver Medals to R. Ashworth, Esq., Newchurch (gr. Mr. Gilden); Messrs. J. Cypher & Sons, Cheltenham; S. Gratrix, Esq., Walley Range (gr. Mr. Brown); W. J. Hargreaves, Esq., Burnley; R. le Doux, Esq., West Derby (gr. Mr. Fletcher); W. R. Lee, Esq., Heywood (gr. Mr. Branch); Mr. E. V. Low, Haywards Heath; Messrs. Stuart Low & Co., Enfield; J. McCartney, Esq., Bolton (gr. Mr. Holmes); W. Thompson, Esq., Stone (gr. Mr. Stevens), and A. Warburton, Esq., Haslingden (gr. Mr. Dalgleish).

Bronze Medals to Rev. J. Crombleholme, Clayton-le-Moors (gr. Mr. Marshall); the Liverpool Orchid Co., Gateacre; Mr. J. Evans, Congleton; Col. J. Rutherford, M.P., Blackburn (gr. Mr. Lupton), and Messrs. A. J. Keeling & Sons, Bradford.

Votes of Thanks to J. H. Craven, Esq., Keighley (gr. Mr. Corney); J. J. Holden, Esq., Southport (gr. Mr. Johnson); Mr. D. McLeod, Chorlton-cum-Hardy; Messrs. Sander & Sons, St. Albans and Mr. W. Shackleton, Great Horton.

First-class Certificates to Cypripedium unnamed (Thompsonii × Rupert), from W. Thompson, Esq.; Zygopetalum Mackayi Charlesworthii and Odontioda Cooksonii, from Messrs. Charlesworth & Co.

Awards of Merit to Odontoglossum Zulu, O. Confidence, and Odontioda keighleyense, Ward's var., from Z. A. Ward, Esq.; Odontoglossum amabile, Ashworth's var., Nubian and illustrissimum, both from R. Ashworth, Esq.; Læliocattleya amabilis and Odontoglossum Lambeauianum Holden's var.; from J. J. Holden, Esq.; Dendrobium Othello, West Point var., from S. Gratrix, Esq.; Cypripedium Archimedes nigrum, from A. Warburton, Esq.; Brassocatlælia Leeana (L-c. Hyeana × B.-c. heatonensis), and Brassocattleya Pocohontas albens, from Messrs. J. Cypher & Sons; Sophrocatlælia Marathon var. Salome, from Messrs. McBean; and Cypripedium Simonii var. The Mousmé, from Mr. E. V. Low.

## MISCHOBULBUM SCAPIGERUM.

Nearly half a century ago a very pretty little terrestrial Orchid, which had been obtained by Messrs. Hugh Low and Co., Clapton, from Borneo, was figured in the *Botanical Magazine* (t. 5390), under the name of Nephelaphyllum scapigerum, Hook. f., the author pointing out that it differed much from its congeners in the anticous position of the labellum, the conical mentum, and the bright colouring of the flower. Nothing further seems to be known about the plant, and it would be interesting to reintroduce it. It is now referred by Schlechter to his new genus Mischobulbum, under the name of M. scapigerum, together with four other species, which have previously been included in Nephelaphyllum and Tainia. They are most like the former in habit, but the flowers are larger, and the lip is without a spur. There are two others which belong to the same genus, the species being as follows:—

M. cordifolium, Schlechter in *Fedde Beih. Repert. Sp. Nov.*, i. p. 98. Tainia cordifolia, Hook. f. in *Hook. Ic. Plant.*, t. 1861.—Native of Formosa.

M. grandiflorum, Rolfe. Nephelaphyllum grandiflorum, King & Pantl. in *Ann. Roy. Bot. Gard. Calc.*, viii. p. 104, t. 144 (not of Hook. f.).—Native of Sikkim.

M. lancifolium, Schlechter, *l.c.*, p. 99.—Native of New Guinea.

M. macranthum, Rolfe. Tainia macrantha, Hook. f. in *Hook. Ic. Plant.*, t. 1860.—Native of South China.

M. papuanum, Schlechter, *l.c.*, p. 98.—Native of New Guinea.

M. scapigerum, Schlechter, *l.c.*, p. 98. Nephelaphyllum scapigerum, Hook f. in *Bot. Mag.*, t. 5390.—Native of Borneo.

M. Wrayanum, Rolfe. Ipsea? Wrayana, Hook. f. in *Fl. Brit. Ind.*, v. p. 812; *Hook. Ic. Plant.*, t. 2085. Nephelaphyllum grandiflorum, Hook. f. *Fl. Brit. Ind.*, vi. p. 192; *Ann. Roy. Bot. Gard. Calc.*, v. p. 23, t. 34. Tainia atropurpurea, Ridl. in *Journ. Linn. Soc.*, xxxii. p. 315; *Mat. Fl. Malay Penins.*, i. p. 115.—Native of Perak.

R. A. Rolfe.

## ORCHIDS IN SEASON.

Three very interesting flowers are sent from the collection of J. J. Holden, Esq., Auburn House, Southport, by Mr. R. Johnson. Cypripedium Alcibiades Illustrious is very fine, the dorsal sepal measuring over three inches across. C. auburnense (Euryades × Leeanum is a fine thing, in which the characters of C. villosum are most apparent in the petals, lip, and staminode, while the dorsal sepal is ovate-orbicular, white, with a rather small green base, on which are numerous brown spots, while beyond this, on the white area, are many small purple dots, leaving a pure white margin, half an inch broad. The third is a very curious flower of the

beautiful C. Euryades, New Hall Hey var., with two dorsal sepals, and one of the anthers replaced by a flat petal-like body, two inches long by nearly an inch broad. This additional body is a petaloid staminode, and though petal-like in shape it is lip-like in texture and colour. Mr. Johnson remarks that all the other flowers on the plant are normal.

## ORCHID NOTES AND NEWS.

THREE meetings of the Royal Horticultural Society will be held at the Royal Horticultural Hall, Vincent Square, Westminster, during April, on the 2nd, 16th and 30th, when the Orchid Committee will meet at the usual hour, 12 o'clock noon.

The Manchester and North of England Horticultural Society will hold meetings at the Coal Exchange, Manchester, on April 4th and 18th. The Committee meets at noon, and the exhibits are open to inspection of members and the public from 1 to 4 p.m. The following meeting is fixed for May 2nd.

## ORCHID PORTRAITS.

BRASSOCATTLEYA WELLESLEYÆ.—*Gard. Chron.*, 1912, i. p. 135, fig. 55.

CATTLEYA BRENDA.—*Gard. Chron.*, 1912, i. pp. 126, 155, fig. 65.

CŒLOGYNE CRISTATA.—*Journ. Hort.*, 1912, i. p. 253, with fig.

LYCASTE BALLIÆ.—*Gard. Mag.*, p. 219, with fig.

ODONTOGLOSSUM CRISPUM SAMUEL GRATRIX.—*Gard. Chron.*, i. p. 197, fig. 85.

ODONTOGLOSSUM JASPER.—*Gard. Chron.*, 1912, i. pp. 196, 197, fig. 84.

ODONTOGLOSSUM QUEEN OF GATTON.—*Gard. Mag.*, pp. 231, 247, with fig.

ODONTOGLOSSUM VULCAN CRAWSHAYANUM.—*Gard. Mag.*, pp. 165, 171, with fig.

## ANSWERS TO CORRESPONDENTS.

[*Orchids are named and questions answered here as far as possible. Correspondents are requested to give the native country or parentage of plants sent. An* ADDRESSED *postcard must be sent if a reply by post is desired (abroad, reply postcards should be used). Subjects of special interest will be dealt with in the body of the work.*]

W.B.—Læliocattleya burbagensis (Lælia purpurata × C. granulosa), and Cypripedium not certainly identified.

C.R.—Saccolabium cerinum, Rchb. f.

R.B.—Many thanks for the list. We will report on both matters shortly.

H.G.—Sophrolælia Gratrixiæ (S. grandiflora × L. tenebrosa).

G.H.H.—Aërides japonicum. Next month.

T.K.—Cattleya Dupreana is the name of the hybrid between C. Warneri and C. Warscewiczii. We do not know the name you mention.

Photographs received, with thanks.—C. & Co, F. A.

Erratum.—By some inexplicable mistake, the address of Dr. J. F. Shafer was given, at page 46, as Stockton, California. It should have been Pittsburgh, Penn.

Catalogue received.—Illustrated Orchid Catalogue of T. Pauwels & Co., Meirelbeke, Gand.

VOL. XX., NO. 233. MAY, 1912.

# THE ORCHID REVIEW

Edited by R. ALLEN ROLFE, A.L.S.

## Contents.


| | PAGE |
|---|---|
| Acriopsis Ridleyi | 160 |
| Amateur's Collection | 134 |
| Answers to Correspondents | 160 |
| Calendar of Operations for May | 145 |
| Dendrobium superbum | 150 |
| Eulophiella, the genus | 136 |
| False hybrids | 141 |
| Inheritance of Albinism in Orchids | 131 |
| Lælia Gortonii | 142 |
| Neomoorea irrorata | 150 |
| Odontoglossum Brayanum: a study in dominance | 133 |
| Odontoglossums from Walton Grange | 140 |
| Orchid Notes and News | 159 |
| Orchid Portraits | 160 |
| Orchids from Streatham | 136 |
| Orchids in season | 143 |
| Osmunda Fibre; wanted, a name | 132 |
| Our Note Book | 129 |
| Societies— | |
| Manchester and North of England Orchid | 154 |
| North of England Horticultural | 158 |
| Royal Horticultural | 148 |

ILLUSTRATIONS.

| | |
|---|---|
| Dendrobium superbum | 144 |
| Eulophiella Elisabethæ | 137 |
| Eulophiella Peetersiana | 138 |
| Neomoorea irrorata | 150 |
| Odontoglossum Rossii immaculatum | 157 |


**PRICE SIXPENCE MONTHLY.** POST FREE 7/- PER ANNUM—SEE OVERLEAF.


# SANDER & SONS.

We receive fortnightly fresh consignments of the best

**OSMUNDA REGALIS FIBRE**

from our own freehold lands, situated in the best Osmunda producing territory of the United States of America. Price per bushel, **2/6**; per bag, **8/6.**

BY APPOINTMENT TO HIS MAJESTY THE KING.

# Messrs. WILLIAM BULL & SONS'

# ORCHID EXHIBITION

Private View, Monday the 13th May, by Cards of Invitation.
The Exhibition will remain open to the Public until
— Saturday the 18th May, 10 to 6 o'clock, in —

**The Winter Garden, 536, King's Road, Chelsea, London, S.W.**

# NOTICES

The ORCHID REVIEW is published regularly at the beginning of each month price 6d. net. Annual Subscription, post free, 7/-, payable in advance.

Volumes I. to XIX. can be supplied unbound at 6/-, or bound in cloth, 7/6, postage extra.—Cost of postage: book post, 9d. per volume; parcel post within the United Kingdom only, 5d. per single volume (series by weight).

Also cases for binding either volume at 1/6 each, post free throughout the postal union.

The ORCHID STUD-BOOK. By R. A. Rolfe and C. C. Hurst. By Parcel Post, 7/11. Abroad, by Book Post, 8/3.

All Subscriptions, Advertisements, Communications and Books for review, should be addressed:—The **Editor of the Orchid Review**, Lawn Crescent, Kew.

Cheques and Postal Orders (sent as above) should be made payable to FRANK LESLIE & Co., and, to ensure safety in transit, should be crossed "& Co."

*Agents for copies supplied through the Trade—*

**MARSHALL BROTHERS, Ltd.**, KESWICK HOUSE, PATERNOSTER ROW, LONDON, E.C.

## SCALE OF CHARGES FOR ADVERTISEMENTS.

| | £ | s. | d. |
|---|---|---|---|
| Five lines and under in column ... | 0 | 2 | 6 |
| Per line after ... ... ... ... ... | 0 | 0 | 6 |
| One-eighth column... ... ... ... | 0 | 4 | 0 |
| Quarter column or eighth page ... | 0 | 7 | 0 |
| Half column or quarter page ... | 0 | 12 | 0 |
| One column or half page ... ... | 1 | 2 | 6 |
| Whole page ... ... ... ... ... | 2 | 0 | 0 |

The Editor invites communications on interesting subjects (which should be written on one side of the paper only), also portraits, &c., of rarities.

Advertisements and late news should be received not later than the 24th of the month.


# CHARLESWORTH & Co.,

ORCHID RAISERS, GROWERS,
IMPORTERS AND EXPORTERS,

# HAYWARDS HEATH,

**SUSSEX,**

Invite their Patrons and Friends to pay them
a visit of inspection at their New Establishment,
——————where may be seen the——————

## Finest Trade Collection of Orchids in Europe.

A Conveyance will be at the Railway Station to
meet Visitors, upon notification being kindly given.

CONTINENTAL BRANCH—RUE GERARD, BRUSSELS.

Catalogue Post Free.

Telegrams:—Charlesworths, Haywards Heath.

Please Address—CHARLESWORTH & Co., Haywards Heath, Sussex.

# THE ORCHID REVIEW.

VOL. XX.] *MAY*, 1912. [No. 233.

## OUR NOTE BOOK.

THE list of entries of Orchid exhibits for the coming Royal International Horticultural Exhibition, as published at pp. 108, 109 of our last issue, affords a pleasurable anticipation of what the great show should be like, if the fates are propitious. We know what many of the exhibitors are capable of at our great spring shows, and this is no ordinary occasion, so that something special is anticipated. The competitive classes will afford a pleasing variety, and there will be plenty of room for grouping for effect, so that those who prefer this mode of display will have plenty of scope for their energy. We anticipate something special in the way of culture, and in the classes for Odontoglossums and for hybrids between Cochlioda and allied genera. But we will not carry anticipation further, for the show will soon be here, and we can only hope that the weather will be as fine as usual on Temple Show week, and that the great event will be a landmark for some years to come. **Next month we hope to give full details.**

---

Hybrids are increasing so rapidly that we seem to be in perpetual difficulties with respect to their nomenclature. At the R.H.S. meeting held on April 2nd, a very handsome Odontoglossum of unknown parentage, called His Majesty, came before the Orchid Committee, and was awarded a First-class Certificate. After the meeting a few members examined it more closely, and came to the conclusion that it was a form of O. mirum (crispum × Wilckeanum). On afterwards comparing the records the writer discovered that the name was applied four years earlier to a different plant (see *O.R.*. xvi. p. 143). It is there recorded that at a meeting of the Manchester Orchid Society held on April 1st, 1908, "a fine Odontoglossum, named His Majesty, probably a hybrid between O. amabile and O. ardentissimum, created great interest, and gained a well-deserved First-class Certificate. It was a flower of excellent shape and substance, with a big solid blotch of rich claret on the sepals, petals, and lip." It was exhibited by Messrs. Charlesworth & Co., and it is said to have afterwards passed into the collection of Mrs. Gratrix, of Whalley Range. This clearly does not agree with the one recently certificated, which latter we have

recorded at page 154 under the name of Odontoglossum mirum var. His Majesty.

---

A good many Odontoglossums of unrecorded parentage have been certificated of late, and it is a pity that more of them cannot be fitted into their proper place. There is not the necessary time for this at an ordinary committee meeting, so that when a certificate is given the name under which the plant is exhibited is generally adopted, unless, indeed, some member notices the mistake and is able to rectify it at once. But, fortunately, such names can be amended later, should the necessity for it arise, and it will be seen from a note at page 158 that the Manchester Orchid Society has adopted the name of Odontoglossum promerens for the hybrid between O. crispum and eximium, in preference to O. Orpheus and O. Delhi, in accordance with the notes at pp. 65, 66 of our March issue. The latter names can, of course, stand as varietal names, and we fancy that other varieties of O. promerens will appear when the process of fitting hybrids of unrecorded parentage into their proper places is carried a little urther.

---

A remarkable Odontoglossum appeared at the last meeting of the R.H.S., with a spike so tall that it had to be stood on the floor to enable members to get a good look at it—over six feet we believe was the official measurement. And its name was nearly as long as the spike—six words, to be precise. And this was only the specific name. In course of time varietal names will require to be added—for we know how prone hybrid Odontoglossums are to vary—and we tremble for the result. But we would ask in all seriousness, Is this sort of thing really necessary? We have a code of Rules of Horticultural Nomenclature, drawn up by a body in which the R.H.S. was officially represented, and we have the advice of the Council to its Committees to adopt the said code in carrying out the Society's work. Again, in answer to the question, "Should the specific name of a hybrid be expressed as a single word, or may it contain more words?" We have the Society's own reply—we are going to set it up in capital letters—"THESE SPECIFIC NAMES SHOULD CONSIST OF A SINGLE WORD." In the case under discussion we believe a Cultural Commendation was given to the plant—not to the name—and we wonder how the fact will be recorded in the Society's Journal. We intend to adopt the Council's advice in the matter.

---

In the above remarks we are not alluding to varietal names, respecting which the code of rules states: "Names of varieties should be expressed whenever possible in a single word; it is, however, permissible to employ

three words as a maximum." This legalises names consisting of five words, for there is always the generic and specific names in addition, but we much prefer the old system, which gave us such names as Dendrobium nobile virginale and Cypripedium Leeanum giganteum, which are quite long enough for ordinary use. It is not necessary to write Dendrobium nobile var. virginale, for the varietal name is understood. A system has now grown up by which the abbreviation "var." is not only used regularly, but is further transferred to the end of the name, as Dendrobium nobile Smith's var., or D. nobile Bleak House var. This sometimes leads to a further innovation, which is now bothering a correspondent, namely, the insertion of a comma between the specific and varietal names; for example Cattleya Flora, Smith's var. Of course, the meaning is not quite the same without the comma, and one can hardly transpose the word var. into its natural position.

---

We are also asked the meaning of such a phrase as Dendrobium nobile virginale Smith's var. Our correspondent always thought that the word virginale indicated the varietal name, but now we appear to have varieties of varieties. He also calls attention to a record in our pages that Awards of Merit were given to what we will call "Dendrobium nobile Smith's var. Olympian and virginale, both from," &c., and he asks, "Whatever does it mean?" We do not know. We gave the record as it reached us. Our correspondent concludes by asking, Where are we going? Perhaps someone will oblige with an answer.

## INHERITANCE OF ALBINISM IN ORCHIDS.

THE question of the inheritance of albinism in Orchids has been discussed in these pages on several occasions, and now further evidence is to hand. Messrs. A. A. Peeters & fils, Laeken-Bruxelles, send a seedling plant, derived from Cypripedium Lawrenceanum Hyeanum × niveum, which has reverted to typical C. Aphrodite. The dorsal sepal is over two inches broad, white, veined and dotted with light red-purple, the veins becoming green at the extreme base, while the petals have a slight greenish suffusion, and are dotted with red-purple, and the lip and staminode are suffused with light purple. The leaves are beautifully marbled, and the scape is covered with dark hairs. Although an attractive hybrid, M. Peeters is naturally disappointed that it is not an albino. The plant has been presented to the Kew Collection.

The second flower is sent from the collection of F. M. Ogilvie, Esq., The Shrubbery, Oxford, by Mr. W. Balmforth, who writes as follows:—"The cross is C. niveum Ajax × Lawrenceanum Gratrixianum. It has interested us because our first attempt at raising a white Antigone through

niveum × Lawrenceanum Hyeanum was a complete failure, all being coloured like an ordinary Antigone. Why we should get a flower much nearer an albino through Lawrenceanum Gratrixianum seems to us a mystery. There is no possibility of the seeds or plants having been mixed, the present cross having been sown over three years later than the first." This plant was exhibited at the R.H.S. meeting held on April 2nd last as C. Antigone album, the purple tint then being less developed, and the flower sent is the upper one of two borne by the scape. It is more like C. niveum in shape than the one from M. Peeters, and may be described as greenish white, with light green veins, but there is a slight purple tinge and a few minute purple dots towards the apex of the petals, also a purple tinge on the staminode, so that it is not an albino, though it has much less purple than the typical C. Aphrodite. C. L. Gratrixianum, it may be added, approaches C. L. Hyeanum, except that it has a little purple suffusion towards the margin of the dorsal sepal and apex of the petals.

As regards C. Lawrenceanum Hyeanum × niveum, raised by M. Peeters, and the reverse cross raised by Mr. Balmforth, they are cases of reversion, of which a good many are now on record, but the other case is difficult to account for. It will be interesting to see what other seedlings from the same batch are like. As regards the name, it may be remarked that the original C. Aphrodite was raised by Messrs. Veitch from C. niveum × Lawrenceanum, and C. Antigone at a later date from the reverse cross.

R. A. R.

## OSMUNDA FIBRE: WANTED A NAME!

THERE has always, to my mind, been a lack of a fitting name for the Osmunda root-fibre as used in Orchid culture, one that is definite and descriptive and at the same time contained in one word. In correspondence recently with Professor L. H. Bailey, of Cornell University, he suggests the name "Osmundine," which will mean, "belonging to Osmunda," and this seems fitting. In the new edition of the American Cyclopedia of Horticulture which is now being prepared, the word Osmundine will be used throughout, and this will doubtless pave the way for its universal adoption here. Might it not be well for you to consider the adoption of this suggestion among British Orchid growers. The root-fibre as seen in commerce is usually the product of two species of Osmunda, O. Claytoniana (interrupta) and O. cinnamomea, as these two ferns grow on drier uplands. O. regalis is essentially a plant of the swamps, the roots often submerged, and never making as large stools. The fibre, moreover, is apt to become more or less sour and unsuitable for epiphytal Orchids. We therefore feel the need of a good name that will be suitable alike for cultivators and the trade generally. Through correspondence in past

volumes of the *Orchid Review*, the writer feels in a measure responsible for the introduction and use of Osmunda fibre abroad, hence the present suggestion for your consideration. E. O. ORPET.

[This opens a rather larger question. Is the fibre of Osmunda regalis to be excluded as unworthy of the new name? And we have Polypodium fibre. If abbreviation is desirable it might be carried further, for the phrase "potted in osmunda," or "polypodium," would be understood.—ED.

## ODONTOGLOSSUM BRAYANUM: A STUDY IN DOMINANCE.

A VERY interesting Odontoglossum was exhibited at the R.H.S. meeting held on March 5th last, by Messrs. W. B. Hartland & Sons, Cork, under the name of Odontoglossum Brayanum, with the record of parentage, O. Groganiæ × Harryanum. The flower was nearly as large as in O. Harryanum, and much like it in general shape, the sepals and petals being reddish purple, tipped with light yellow, and the lip pandurate, white in front, and maroon purple behind, with a yellow spiny crest. So slight was the evidence of O. Groganiæ (Uroskinneri × Edwardii) that we asked Mr. Treseder the history of the cross. He replied that O. Groganiæ was the seed bearer, and O. Harryanum the pollen parent, and that there was not the slightest possibility of error, for they had only a single capsule on O. Groganiæ, from which many seedlings were obtained, though a number of them were eaten, and ultimately only three survived. We have thus a case of paternal dominance, but we should not be at all surprised to find the other two seedlings considerably different when they flower. O. Groganiæ was obtained from O. Uroskinneri ♀ and O. Edwardii ♂, the two belonging to very distinct sections, and it is interesting to note that in this case the hybrid took nearly the shape of the seed parent and the colour of the pollen parent, the shape of the one and the colour of the other being dominant, though both were slightly modified in detail.

O. Groganiæ was raised in the collection of J. H. Grogan, Esq., Slaney Park, Wicklow, and its history, as given by the raiser, is very interesting. He remarks :—"In the spring of 1904 I had a fine spike of 36 buds on a very fine variety of O. Uroskinneri. I fertilised every one of these flowers as it came out with the best pollen I could obtain at the time, and not one of them would take. When I came to the last flower the only pollen I had available was from a good variety of O. Edwardii, and this I used, not in the least expecting to get a pod, as I have found that Edwardii pollen is practically useless. To my astonishment a fine seed-pod developed, and in due time the seed ripened, germinated, and the little plants throve apace, with the present result. The plant exhibited had an inflorescence of 58 flowers and buds, and this on the first bulb from the seed bulb. I believe Uroskinneri hybrids have a bad name, but these are

tremendous growers. I have one that made up the seed bulb as big as a fair-sized hen's egg. It is like the seed parent in its character of opening a few blooms at a time, but each individual flower lasts for weeks in perfection. I have since then fertilised dozens of Uroskinneri flowers but failed to get a pod, and the only plants that I have succeeded in getting seed-pods on by Edwardii have been Cochlioda Nœtzliana, and I have a nice lot of seedlings of these. I don't know that it would have made much difference to the flower had the cross been the other way round, but it certainly would have been easier to have got it, as O. Edwardii seems to set seed pods and produce good seed with nearly anything."

We believe that the O. Groganiæ used by Messrs. Hartland was one of these particular plants, and bearing in mind the well-known variability of secondary hybrids we shall hope to see flowers of the other two seedlings when they appear. R. A. R.

## THE AMATEUR'S COLLECTION.

By C. ALWYN HARRISON, F.R.H.S.

### COOL HOUSE.

Now that the sun gains more power, the blinds should be used whenever it shines upon the roof glass, and, therefore, the shading is generally required from about 10.30 till two, or even a little later on exceptionally sunny days towards the end of the month. No fire heat will be needed now, unless unseasonable weather be experienced. The top and bottom ventilators can be opened earlier than during last month. Always bear in mind that fresh air is of the utmost importance to these Cool house Orchids, and the house should never feel stuffy when entered at any time. The general advice upon watering given in last month's article may still be acted upon, but a slight spray over the leaves should now be practised twice daily, usually about 9 a.m., and before the house is shut up for the night. Of course, all the pipes, stagings, and path must be kept well damped now onwards, and usually this damping down should be done about nine, at midday, and again about 3.30 p.m.

Lycaste Skinneri has now finished flowering, and, if requiring it, may be repotted. Remove the plant with great care from the old pot, and, after trimming off all dead and decayed roots and pseudobulbs, place it in a fresh pot, two-thirds full of clean broken crocks. For soil, use a mixture of osmunda fibre, peat, and loam—a good yellow fibrous loam for preference. Mix these ingredients together, and use in a damp state. This Orchid does not like frequent root disturbance, and so should be set well to one side in the fresh pot, to allow for further development. Bifrenaria Harrisoniæ may also receive similar treatment. Water all newly-potted carefully until it is seen that they have obtained a firm hold of the compost.

The house should now be very gay with Odontoglossum crispum and the many hybrids. Many of the latter can now be procured in an unflowered size, and afford a vast store of interest for their growers. If any exceptionally choice varieties are possessed, and it is desired to increase the stock, sever the rhizome clean through with a sharp knife, two pseudo-bulbs behind the last-made growth. This severed portion will very often emit fresh roots and produce a fresh bulb, and when this is observed to be the case, it should be removed and potted up singly. Any of the long-spiked Oncidiums, such as Marshallianum, macranthum, oblongatum, sarcodes, and Wentworthianum, also Odontoglossum hastilabium and Edwardii, if in bud, should now be given quantities of water daily, otherwise their multitudinous flowers may fail to expand to their full beauty.

### CATTLEYA HOUSE.

Water must now be given more freely to all the inmates of this house, and, for a beginner, the following rules may serve as a guide, but should not be absolutely carried out to the letter. From now onwards all plants in bud and full growth should receive a good dose of water every alternate day, but those just, starting every three days, and any which are resting, rather less frequently. The staging, path and pots should be kept well saturated with moisture at all times, which will probably necessitate damping three times a day. The plants must also be sprayed over their leaves once in the morning and again about 3 p.m. Give all possible air which can be admitted without lowering the temperature below 65° Fahr. Fire heat will now usually only be needed to maintain an even degree of 65° Fahr. during the night, and may be dispensed with during the day. Shading should be lowered only as long as the sun is shining with its full force upon the roof glass.

Any Dendrobiums which have now finished flowering, such as crassinode, nobile, or its many varieties, and Wardianum, may receive attention or be repotted. Always use pots which are small in proportion to the size of the plant, and repotting, in fact, is only needed about every other year, merely to renew the compost, as a larger pot is rarely required, for when all dead bulbs and roots are removed, the same-sized receptacle can be again employed, but on no account use the same pot. Make the plants moderately firm, and do not place them too low in the pot; the rhizomes should be about $\frac{1}{4}$-inch below the rim of the pot. For compost use a mixture of osmunda fibre, polypodium fibre, sphagnum moss, and oak leaves.

Many handsome hybrids of Cattleya and Lælia should now be making a fine display, together with forms of those two fine species, C. Mendelii and C. Mossiæ. Renanthera Imschootiana should now be in flower, and must be sprayed over the leaves once every day, taking care not to touch the flowers.

## ORCHIDS FROM STREATHAM.

AT the R.H.S. meeting held on April 2nd last a brilliant little group of Odontiodas was exhibited from the collection of R. G. Thwaites, Esq., Chessington, Streatham (gr. Mr. J. M. Black). Flowers of several of these charming little plants have now been sent, the majority being hybrids of Cochlioda Nœtzliana, a plant which is rapidly making history. They include the richly-coloured Odontioda Charlesworthii; two forms of O. Bradshawiæ, both having a few yellow markings on the sepals and petals, and more pale yellow on the lip; O. Cecilia (C. Nœtzliana × Odontoglossum Wiganianum), with uniformly red sepals and petals and a little yellow on the lip; O. Zephyr (C. Nœtzliana × O. Wilckeanum), a bright orange-scarlet flower with some yellow markings on the segments; a form of O. Boltonii (C. Nœtzliana × O. Vuylstekei), with somewhat elongated, very undulate bright red sepals and petals and a buff-coloured lip; and two forms of O. Cooksoniæ, out of the same pod, one having uniformly bright orange-scarlet flowers, the other having a whitish ground, irregularly blotched with scarlet all over, and forming a very striking contrast. Two novelties are described at the end of this note. There is also a form of O. chelseiensis (C. vulcanica × O. crispum), with a prettily blotched form of Odontoglossum armainvillierense, a uniformly-coloured form of O. Thompsonianum, and a hybrid from O. Fascinator × armainvillierense, having the flowers very heavily blotched with red-brown on a white ground; the whole forming a very charming series.

ODONTIODA CHESSINGTONENSIS.—A bright crimson-coloured hybrid, raised from C. Nœtzliana crossed with the pollen of O. Rolfeæ. It is most like O. Charlesworthii, but is rather brighter in colour, owing to the reduced amount of O. Harryanum present. The crest is yellow, but otherwise the flower is uniformly coloured throughout. The column wings are rather larger than in O. Charlesworthii, and the flowers at present rather smaller.

ODONTIODA SANDERÆ.—A handsome form, derived from C. Nœtzliana and O. percultum. The inflorescense is very compact, and the flowers round and full, slightly convex, and of a uniform bright scarlet, with the crest yellow. It is a very promising acquisition.

## THE GENUS EULOPHIELLA.

ANOTHER species of the remarkable genus Eulophiella has appeared in cultivation, plants of E. Hamelinii, Rolfe, being offered by Messrs. T. Pauwels & Co., Meirelbeke, Ghent. The species has long been imperfectly known, having been briefly described about twelve years ago from a drawing by M. L. Hamelin (*O.R.*, viii. p. 197). This shows a panicle of about thirty flowers, with somewhat acuminate white sepals and petals, and a

three-lobed lip, spotted with red-brown, and three yellow keels at the base. We believe that it has not yet flowered in cultivation.

E. ELISABETHÆ (fig. 19) is the original species of the genus, and has now become rare, but one of the original plants, which is shown in the annexed figure, has again flowered well at Kew during the present spring

Fig. 19. EULOPHIELLA ELISABETHÆ.

It succeeds well when grown in a fibrous compost, and suspended in a moderately light position in a warm house. The method of culture is well shown in the figure. The flowers are white, suffused with lurid purple behind, and the crest of the lip bright yellow. The plant is a native of Madagascar, and was originally introduced by Messrs. Linden, Brussels, and described and figured in Lindenia (t. 325). It was exhibited at the

Ghent Quinquennial Exhibition in 1893, and was described as probably the most remarkable exhibit in the whole show. It is believed to grow naturally on tree fern stems. A single plant is said to have been sent to Messrs. Linden, with an importation of Angræcum sesquipedale and Grammangis Ellisii. It was afterwards figured in the *Botanical Magazine* (t. 7387), from a subsequent importation, whose history has been given in the early volumes of this work. A plant of this species in the collection of Dr. Hodgkinson, The Grange, Wilmslow, bore a capsule some years ago, which was described as porcelain-colour with purple angles.

EULOPHIELLA PEETERSIANA (fig. 20) appeared unexpectedly in 1897, when plants, which had been obtained from M. Mocquerys, were offered for sale by M. Peeters, of Brussels (*O.R.*, v. p. 67). Shortly afterwards it was described (Kränzl. in *Gard. Chron.*, 1897, i. p. 182). In March of the following year it flowered for the first time in Europe, in the collection of Sir Trevor Lawrence, Bart., Burford, Dorking, and the inflorescence was exhibited at a meeting of the R.H.S. held on April 12th, and received a First-class Certificate (*O.R.*, v. pp. 104, 156). This is the plant figured on the opposite page, from a painting by Macfarlane. The same plant was also figured in the *Botanical Magazine* (tt. 7612, 7613). It is much larger than E. Elisabethæ, and the flowers are very large, and purple in colour, with an orange yellow disc to the lip, surrounded by a white area within the purple margin.

In 1899 a very interesting article, by Mr. A. E. P. Griessen, appeared under the title, "Unrecorded discovery of Eulophiella Peetersiana (*O.R.*, vii. p. 258). He remarks: "A friend of mine, who is well known in the Orchid world, thought of sending a collector to explore completely the Isle of Nattes, and before finally arranging matters it occurred to him to look through some of the collections of the Jardin des Plantes Herbarium at Paris, when he found, not without great surprise, a well-preserved specimen of Eulophiella Peetersiana, which had laid in the Herbarium for the last fifty years, and was still unidentified. The exact locality is indicated, so that there can be no doubt about the facts. This clearly shows the importance of preserving collections of dried specimens, though they should not remain for half-a-century without being looked over to see what they contain."

He also gives the history of its introduction: "M. Mocquerys, who was previously a collector for M. Godefroy Lebeuf, of Paris, made an agreement with M. Peeters, of Brussels, and left Europe for Sainte Marie de Madagascar, without anticipating the discovery of such a magnificent plant as the one now under notice, and it is surprising what a number of collectors have for the last two centuries passed and stayed for a certain time in these regions without having previously noticed the most common plant of the

Fig. 20. EULOPHIELLA PEETERSIANA.

Isle of Nattes, at the south of Sainte Marie. On this small isle, however, Mocquerys discovered Eulophiella Peetersiana, and another species

which is supposed to be still undetermined, bearing rather large white flowers, and on the coast of Madagascar just opposite Sainte Marie he found again E. Elisabethæ—another definite and interesting fact." We suspect that the other species alluded to may be E. Hamelinii, though we have no definite record of its habitat.

It has since been stated that E. Peetersiana grows on the stems and branches of Pandanus. The species has now flowered in several collections, and among them at Kew, where there is a fine plant. It is very handsome when in flower, though rather troublesome to deal with, on account of its size. The leaves are three to four feet long, by nearly six inches broad, and the spike ultimately attains a height of five to six feet. It may be added that some time ago the Glasnevin plant bore a capsule, as the result of crossing with the pollen of E. Elisabethæ obtained from Kew, but we have not heard whether seedlings were obtained. R. A. R.

## ODONTOGLOSSUMS FROM WALTON GRANGE.

A BEAUTIFUL series of Odontoglossums is sent from the collection of W. Thompson, Esq., Walton Grange, Stone, by Mr. W. Stevens. Particularly interesting are three forms of O. crispum × Wilckeanum, which must be referred to O. mirum, though we should have called them blotched forms of O. crispum had they appeared among imported plants. They vary somewhat in shape and in the details of the lip, but all have white ground colour, with copious blotches. We regard them as proving the origin of one set of "blotched crispums" beyond dispute. There are five diverse forms of O. Pescatorei × Ossulstonii, having broad lips most like the former in shape, and four have the segments heavily blotched all over with purple, but the fifth is white, with much fewer purple spots, recalling a blotched Pescatorei. O. Pescatorei × armainvillierense is a large flower, heavily blotched with purple on a white ground, a really charming thing. O. crispum × Vuylstekei has broad, somewhat acuminate, white sepals and petals, very heavily blotched with claret purple, and the lip broadly margined with white. O. Ossulstonii × eximium has rather elongated claret purple segments, with a few obscure whitish splashes, and the lip has a small white apex and a yellow crest. O. spectabile × Vuylstekei, though somewhat similar in colour, has much broader segments, and the petals are toothed. O. Adrianæ × Ossulstonii is a charming round flower, with white ground-colour, copiously blotched with red-purple. There are three forms of O. cirrhosum × Ossulstonii, all most like the former in shape, and the two smaller copiously blotched with red-brown, while the other is most like O. cirrhosum in colour, but has broader segments, especially the lip. O. excellens eugenes × Harryanum recalls a form of O. Rolfeæ, of which latter a very fine form is also enclosed. A form of O. amabile (spectabile ×

crispum Stevenii) recalls a giant Ruckerianum, having rosy sepals, and only a few spots on the petals and white lip. Two forms of O. warnhamense (Pescatorei × Hallii) vary greatly in size, and the best is a really charming thing. There is also a good blotched crispum that should be taken care of a fine form of O. Phœbe, a fine dark O. Charlesworthii (triumphans × Harryanum). a form of O. Clytie, and two charming forms of O. Lambeauianum (crispum × armainvillierense). Three others are of doubtful parentage, two being seedlings of O. Adrianæ with the flowers copiously blotched with dark purple. They may be forms of O. Solon (Adrianæ × armainvillierense). A beautiful yellow hybrid, with a few brown spots on the sepals, was obtained from a yellowish flower of crispum shape crossed with a deep yellow form, probably loochristiense, for the triumphans column wings are unmistakable. Lastly there is a sulphur yellow seedling of crispum shape, but, unfortunately, of doubtful parentage, which should be taken care of. Mr. Stevens also includes a ten-flowered spike of a good typical O. crispum that has been in the collection for forty-two years, a very interesting plant.

## FALSE HYBRIDS.

I HAVE been much interested in reading the remarks on false hybrids in Orchids in the *Orchid Review* for February (pp. 37, 38). Last summer I visited Dr. Jacques Loeb in his Laboratory at Woods Hole, and he showed me drawings of hybrid Echinoderm larvæ, remarking that when the cross was made between very diverse forms, the resulting larvæ were always exclusively of the maternal type. It simply came to this, that the sperm cell produced two kinds of effect upon the egg, one causing it to develop, the other transmitting the parental qualities. The first event could very well happen without the other, and hence "false hybrids." Dr. Loeb has a most illuminating account of the general facts, with a chemical discussion, in a paper "On the Chemical Character of the Process of Fertilisation and its bearing upon the theory of Life Phenomena," issued as an advance print from the Proceedings of the Seventh International Zoological Congress, and published at Cambridge, Mass. I think Loeb's conclusions would be of great interest to Orchid breeders, and would, perhaps, suggest some good experiments. Loeb suggests, among other things, that the chemistry of the processes of germination in seeds is essentially analogous to that of fertilisation (he uses fertilisation here only for the processes involved in growth and development, without reference to the transmission of characters). As it appears that an enzyme develops in seeds which, with free oxygen, assists the process of germination, it seems barely possible that an *extract* of germinating seeds, or seeds about to germinate, when applied to an unfertilised flower of the same species, would set up developmental

process. Such an experiment would not be difficult to make, and little time and trouble would be lost if nothing came of it.

Loeb further describes his experiments in "artificial parthenogenesis," which are well known and which undoubtedly seem to confirm the other ideas mentioned above. THEO. D. A. COCKERELL.

University of Colorado,
Boulder, Colorado, U.S.A.

Messrs. Peeters, Brussels, write, in connection with the same question, that they pollinated *Zygopetalum Mackayi* with Odontoglossum crispum, and the resulting seedlings were identical with *Zygopetalum Mackayi*. These were again pollinated with O. crispum, but the second generation was again indistinguishable from the *Zygopetalum*. They, however, did not remove the pollinia of the seed bearer, so that one cannot be certain as to what really took place. Mr. J. S. Moss, however, states that he has repeated the process a third time, always first carefully removing the pollen from the seed bearer, and the result was still indistinguishable from the *Zygopetalum*.

Mr. Cockerell's note throws much light on the suggestion that in such cases fertilisation proper does not take place—that the alien pollen tubes do not enter the mycropyle of the ovule—hence no transmission of characters, but that the ovules are developed parthogenetically as the result of the stimulus of pollination. Such a result is not due to dominance as usually understood, and it emphasises the importance of cases of so-called paternal dominance. R. A. R.

## LÆLIA GORTONII.

MR. C. WARREN, Mickleham, Dorking, writes :—"I should like to ask your opinion on an Orchidaceous plant which has been rather puzzling me. It is known as Lælia Gortonii, and I have looked at all the books of reference within my sphere, and do not find it noted in any volume of the *Orchid Review*, nor in Watson's Book of *Orchids*. It is a strong-growing plant, with round pseudobulbs, which become furrowed after the first season, which are about an inch high, and bear a single leaf, or on strong growths two may be present. The leaves are from four to seven inches long, and lanceolate. For the last four years I have had plants under this name in my charge, and have never been fortunate enough to flower them. I am beginning to wonder if I have confused it with Lælia Groganii, which is a hybrid between Lælia flava and L. crispa. I hope you will be kind enough to clear me up this mystery."

A similar note was sent to the *Journal of Horticulture*, and "W.B." replies, that the first and only time he saw a plant under this name was in 1904, when on a visit to Mr. Rothschild's collection at Tring Park. His

notes only record the name; no parentage or description being given, for the plant was not in flower. Since then the Tring collection has been dispersed. Not knowing the parentage, it is difficult to say what cultural treatment it requires, but judging from the notes by Mr. Warren, he thinks it is hardly strong enough to produce a scape.

We believe that the Tring plant came to Kew, where it still maintains its reputation of refusing to flower. It is believed to be a Brazilian species introduced by Dr. Gorton, at one time in business at Maida Vale, but has never been described. It apparently belongs to the L. crispilabia group. We hope that some one will succeed in flowering it and setting its mysterious origin at rest. R.A.R.

## ORCHIDS IN SEASON.

A FLOWER of the remarkable Odontoglossum Memoria King Edward VII., to which a First-class Certificate was given by the Manchester Orchid Society on March 9th last, is sent from the collection of J. J. Holden, Esq., Southport, by Mr. R. Johnson, who remarks that it was purchased as a seedling of unknown parentage, and is now flowering for the second time. The flower measures $3\frac{3}{4}$ inches from tip to tip of the petals, which latter are over $1\frac{1}{4}$ inches across, and well toothed, with one great solid claret-purple blotch, a little white at the base, and a white apex and margin. The sepals are similar in colour, but have rather less white, and the pandurate lip has a large violet-purple blotch in front of the yellow crest, the apex being white. The column wings are rather broad and slightly toothed. It is a magnificent thing.

A flower of a remarkable peloriate form of Odontoglossum crispum is sent from the collection of Walter Cobb, Esq., Normanhurst, Rusper. The lip is broadly triangular in shape, and pure white, the crest being reduced to a pair of narrow purple lines at the base, with a tinge of yellow between them. The petals are broad, and white, and the sepals have two or three purple spots near the base. Three or four flowers were peloriate, but the rest were normal, so that the scape had a very striking appearance.

A distinct and curious hybrid Odontoglossum has been sent from the collection of Sidney F. Jackson, Esq., Danehurst, Epsom, but unfortunately the parentage is not known. The characters of O. triumphans, however, are written large over the column wings and lip, and there can be no doubt that it or one of its hybrids was one of the parents. The flower is yellow, with a strong suffusion of rose and some minute dots on the sepals, and a paler suffusion in the petals. The lip is broad, with a large red-brown blotch in front of the crest. One cross was made from O. loochristiense with a pink crispum, having some small spots in the petals, and this may represent the parentage.

## DENDROBIUM SUPERBUM.

WE are now able to give an example of Orchid growing in the tropics, the annexed figure representing some finely-flowered plants of Dendrobium superbum, which have been grown at Port of Spain, Trinidad. For the photograph we are indebted to Felix L. Anduze, Esq., who writes as follows:—"To-day I have much pleasure in enclosing a small photo taken by myself of Dendrobium superbum. The plants have been in bloom for the last three weeks, and are still quite fresh, and there were 513 flowers open when photographed, with a few more to open. These plants have been growing under a mango tree for a number of years, on the property of one

Fig. 21. DENDROBIUM SUPERBUM (grown in Trinidad).

of my friends in this town, and when it last flowered there were 318 blooms. We have had a very severe drought this year, and it has undoubtedly caused Dendrobiums to flower well, even D. nobile, which hardly ever flowers here." Probably D. superbum, being a Malayan species, is better adapted to the climate of Trinidad than D. nobile, which likes a cool rest after maturing its growth. We would suggest that D. Ainsworthii and its varieties, being half derived from D. aureum, also in part Malayan, might succeed in the climate of Port of Spain. We should like to know if D. Phalænopsis succeeds there.

## CALENDAR OF OPERATIONS FOR MAY.

By J. T. BARKER, The West Hill, Hessle, E. Yorks.

IN each department plants will now be making new growth, and every encouragement should be given them to build up and mature such growth as quickly as possible. To assist in bringing this about, the summer temperatures should now be strictly adhered to, whenever the outside conditions are mild and genial, but should a spell of cold inclement weather prevail a few degrees lower will be better than an abnormal amount of fire heat.

Cool house: Night, 55° to 60°; Day, 60°, or as cool as possible.

Intermediate houses: Night, 65° to 70°; Day, 70° to 80°.

Warm houses: Night, 75°; Day, 75° to 85°.

The figures are given as a guide, but the cultivator must use a certain amount of discretion, according to the outside conditions.

Cool-house Orchids are soon injured by excessive heat, which many found out during the abnormal heat of last summer, and therefore they must be kept as cool as possible.

VENTILATION.—During excessively hot weather the ventilation of the Cool-house will need a great deal of attention, as the humidity of the atmosphere must be maintained, which is not an easy matter, especially if the top ventilators are opened much during the hottest part of the day. The temperature of this house should be kept down in the day time by the judicious use of the blinds. The top ventilators may be left open during the night, when the moisture in the atmosphere will be very beneficial to the plants. The ventilation of the other houses must receive some amount of forethought and attention, and the great thing to study is to give the plants a continual supply of fresh air, without causing draughts.

ATMOSPHERIC MOISTURE.—With the advancing power of the sun, and the warmer weather, more moisture must be maintained in the houses to keep the plants in a healthy condition, and as a preventative against insect pests. Spraying and syringing may be indulged in frequently on fine bright days, but only soft tepid water should be used for this purpose. On cold damp days, if done at all, it must be done with great caution.

WATERING must at all times be done with discretion, as watering a plant at the root that does not require it only decays the compost, which may in the end destroy the roots of the plant.

CYPRIPEDIUMS.—The potting of the winter-flowering section should be brought to a conclusion as soon as possible, as time lost at this season cannot be made up. The sooner these plants get established in the new compost the better, as a well established plant produces a larger crop of better flowers, than one only half established.

CATTLEYAS, LÆLIAS, LÆLIOCATTLEYAS, and others of this family that

are now pushing up their flowers within the sheaths, should be thoroughly cleaned and the flowering growths neatly staked up. A house should, if possible, be devoted entirely to plants in flower, where a slightly lower temperature and a drier atmosphere may be maintained, which will be the means of the flowers lasting longer, and afford more enjoyment to those who wish to inspect them. Push on with the repotting of any of this family which may require it, on the lines laid down last month. Where a collection of species and hybrids of this most beautiful group is grown, something or other will nearly always be in the condition when repotting will be beneficial. To successfully cultivate these plants, I am fully convinced that they must have a sweet rooting medium, and many deteriorate through the compost being allowed to get into a decayed condition.

DENDROBIUMS.—The evergreen species which flower at about this season comprise such beautiful and attractive plants, as D. densiflorum, Farmeri, thrysiflorum, moschatum, Dalhousieanum, fimbriatum, chrysotoxum, Bronckartii, and several others. All are free-growing plants that can be accommodated in an ordinary plant stove during the summer months, whilst making their growths, and rested during the winter in a warm greenhouse, where the temperature does not go below 55°. These plants usually commence developing their new growths and flower spikes simultaneously, and by the time the flowers are past the young growths are somewhat advanced in making roots from their base. At this stage any necessary repotting should be attended to. They all may be cultivated in pots, and require a position where they get plenty of light, and only require protection from the direct rays of the sun during the hottest part of the day.

DENDROBIUM PHALÆNOPSIS, and other species of this section, may also have attention in the same way, providing the young growths are seen to be pushing new roots. These plants should always be grown in shallow pans, as the best results are obtained when they are restricted as regards rooting space. The compost as advised last month for Dendrobiums will answer their requirements. The usual precautions as regards watering newly-potted plants must be adhered to.

DENDROBIUM FORMOSUM is a very useful Orchid where there is a great demand for choice white flowers in the autumn. The plants which are now commencing to grow should be treated as advised for D. Phalænopsis. Both species delight in plenty of heat and light when in full growth, and an abundant supply of moisture both at the root and in the atmosphere. D. infundibulum and its variety Jamesianum are also growing and making new roots, and may be repotted should they require it. This species succeeds grown in the same way as the preceding, with the exception that it delights in a cool intermediate temperature instead of a warm one.

ANGULOAS.—The species of Anguloa should be potted either immediately they commence to grow or directly they have finished blooming. These plants succeed in the same compost as the green-leaved Cypripediums, and any that are in need of new rooting material may now have attention. A shady position in the Cool Intermediate house will answer their requirements

LYCASTES.—Lycaste Skinneri and its varieties that are starting into growth should be repotted, if necessary, also other plants of the same genus. They will succeed in the same compost and under the same conditions as Anguloas, and should be potted in the same manner (much as an ordinary stove plant), leaving a good space on the surface for holding water. Although moisture-loving plants, they must not be given much water during the early stages of growth.

ZYGOPETALUMS.—The various members of this genus, supply a desirable colour amongst Orchid flowers, their blooms being, for the most part, of some shade of blue or violet. *Z.* Perrenoudii is one of the best. They are now producing their flower spikes, simultaneously with the young growths. It is not advisable to allow the spikes to remain upon the plants for a very long period, and as soon as the flowers lose their lustre, it is best to remove them. Any plants needing fresh rooting material should receive attention, as new roots soon push from the base of the new growths. Zygopetalums are impatient of root disturbance, and should not be repotted unless it is absolutely necessary. They will succeed in the same compost as the green-leaved Cypripediums, and should be grown in a shady position in the Intermediate house.

ODONTOGLOSSUMS of the grande and Insleayi section require a slightly higher temperature than that provided for O. crispum. They are best grown during the winter months at the coolest end of the Intermediate house, and kept comparatively dry, but during the summer at the warmest end of the Odontoglossum house. Many of these Mexican Odontoglossums will now have commenced to grow, and when new roots are seen to be pushing from the new growths they may have attention as regards repotting, should they require it. They will succeed in the same compost as other Odontoglossums. This class of Odontoglossum, having thicker leaves, will withstand more sunlight than the thin-leaved ones, and, therefore, should not be densely shaded, but the other extreme must also be avoided.

CYMBIDIUMS that require repotting may now be done. Such species as C. eburneum, Lowianum, and others, with the increasing number of hybrids, will thrive at the cool end of the Intermediate house, where they must be shaded from direct sunshine. They will succeed in a compost made up of equal parts of fibrous peat and loam, with a fair quantity of sphagnum moss and coarse silver sand. They should be potted moderately firmly, and much like an ordinary plant. C. Devonianum is distinct in its habit

and mode of flowering, producing pendant flowering racemes in the way of a Stanhopea, therefore should be cultivated in shallow teak wood baskets, using a compost as for Cattleyas. The taller species are best grown in ordinary flower pots, and the dwarfer growers, such as C. tigrinum, in shallow pans suspended from the roof. During hot weather their surroundings should be kept constantly moist by light syringings.

CŒLOGYNE PANDURATA, should it require repotting, may have attention as it passes out of bloom, using the same compost as advised for C. cristata last month.

VANDA CŒRULEA is an Orchid which a great many are not as successful with as they would wish, and the present is a good time to repot any that may require it. The compost I recommend consists of equal parts of osmunda fibre, sphagnum moss, and half-decayed oak leaves. Pot the plants moderately firmly, and water carefully until the new roots are well established in the fresh compost. This species needs very little shade, and must have a supply of fresh air at all seasons, and when in full growth will stand a fairly high temperature, providing air is accompanied with it. I find a warm Intermediate house is suitable to grow it in, and when at rest they must be exposed to all the light possible, and be kept fairly dry.

ONCIDIUMS, as they pass out of flower and commence to grow, may have attention as regards repotting, using a compost as for Odontoglossums, with a more liberal supply of half-decayed oak leaves. After repotting they may be thoroughly cleaned and returned to their respective houses, according to their requirements.

GENERAL REMARKS.—This is, perhaps, the busiest month in the whole year to the Orchid cultivator, as work will, in many cases, seem to come on much faster than it can be got through, but perseverance will do wonders. In repotting, try to catch every plant at the proper time, so that the check it receives is as slight as possible, as time lost can never be regained. Continue to exercise the greatest diligence in the eradication of all pests, and be scrupulous and thorough in attending to the wants of the plants. Maintain a healthy and sweet atmosphere within all the houses, and under such measures success will be sure to crown your efforts.

## SOCIETIES.

### ROYAL HORTICULTURAL.

A MEETING was held at the Royal Horticultural Hall, Vincent Square, Westminster, on March 19th, when there was a good display of Orchids, including seven medal groups, but only three subjects figured in the list of Awards.

Orchid Committee present: J. Gurney Fowler, Esq. (in the Chair), and Messrs. Jas. O'Brien (hon. sec.), Gurney Wilson, F. M. Ogilvie, T.

Armstrong, A. A. McBean, W. Cobb, J. Charlesworth, J. E. Shill, H. G. Alexander, A. Dye, W. H. White, J. Wilson Potter, J. S. Moss, W. Bolton, de Barri Crawshay, C. J. Lucas, Stuart Low, and Harry J. Veitch.

H. F. Goodson, Esq., Fairlawn, Putney (gr. Mr. G. E. Day), staged a fine group, including a selection of Phaius Norman and P. Marthæ, Læliocattleya Charlesworthii, Cymbidiums, Cypripediums, Odontioda Charlesworthii, and a number of good Odontoglossums (Silver Flora Medal).

G. Hamilton-Smith, Esq., Killoran, Finchley (gr. Mr. Coningsby) sent a good selection of Lycaste Skinneri, including the very fine variety Mrs. G. Hamilton-Smith, and some well-grown specimens of Cymbidium eburneum, Balliæ, Veitchii, insigne, and Lowgrinum (Silver Banksian Medal).

G. M. Bird, Esq., Manor House, West Wickham (gr. Mr. Redden), showed Odontoglossum crispum Luciani.

Sir Jeremiah Colman, Bart., Gatton Park, Reigate (gr. Mr. J. Collier), sent a very choice group, including Odontioda gattonensis with a spike of forty-five flowers, a very fine O. Bradshawiæ with two spikes, the best bearing fifty-four flowers, Odontoglossum Japonais, the rare Maxillaria sanguinea, Megaclinium falcatum, Bulbophyllum mandibulare, and B. barbigerum.

De Barri Crawshay, Esq., Rosefield, Sevenoaks (gr. Mr. Stables), showed Odontioda bella (Cochlioda Nœtzliana × Odontoglossum bellatulum), with deep red flowers, a home-raised form of Odontoglossum excellens, and a fine form of Cymbidium insigne.

E. H. Davidson, Esq., Borlases, Twyford (gr. Mr. Cooper), sent Odontioda Cooksoniæ var. Eric, a bright scarlet form, and Odontoglossum crispum Clarissa.

J. H. Hill, Esq., Burgess Hill, Sussex, showed Dendrobium Austinii var. J. H. Hill, a richly-coloured form.

Lt.-Col. Sir George L. Holford, K.C.V.O., Westonbirt (gr. Mr. H. G. Alexander), sent Læliocattleya Alpha, Westonbirt var. (L.-c. Ernestii × C. Schrœderæ, a pretty pale yellow form.

S. Larkin, Esq., Ridgeways, Haslemere, sent Læliocattleya Endymion, a richly-coloured form.

H. T. Pitt, Esq., Rosslyn, Stamford Hill (gr. Mr. Thurgood), sent Cymbidium Lowgrinum and C. Lady Colman, Rosslyn var.

J. T. Bennett-Poë, Esq., Holmewood, Cheshunt (gr. Mr. Downes), sent Cymbidium Colmaniæ, Holmewood var., and a spike of C. Lowianum, Woodhall's var. with a spike of twenty-two flowers.

R. G. Thwaites, Esq., Chessington, Streatham Hill (gr. Mr. J. M. Black), showed the deep red Sophrocatlælia Atrens gloriosa, and Odontioda Sanderæ, Black's var., a bright scarlet form.

Messrs. Charlesworth & Co., Haywards Heath, staged a choice group,

Fig. 22. NEOMOOREA IRRORATA (as grown at Kew).

including a plant of the remarkable Neomoorea irrorata with a fine spike, the rare Angræcum Germinyanum, a well-bloomed A. citratum, Cattleya

Trianæ alba, and others, Læliocattleya Nelthorpe Beauclerk, some good Odontiodas, and a number of finely-flowered Odontoglossums, mostly hybrids (Silver Flora Medal).

Messrs. Sander & Sons, St. Albans, staged a fine group, including a lot of Dendrobium Wardianum in the centre, D. delicatulum, Renanthera Imschootiana, Cattleya Olaf var. venusta, a pretty white flower with the front of the lip rose-purple, some good C. Trianæ, Schroederæ and Vulcan, Cymbidium Gottoianum, Megaclinium maximum, Gongora leucochila, and some good Odontoglossums and Brassocattleyas (Silver Flora Medal).

Messrs. Hassall & Co., Southgate, sent a good group, including two well-bloomed Angræcum sesquipedale, Cypripedium Maudiæ, Brassocattleya Veitchii, Masdevallia bella, Sophronitis grandiflora, Cattleya amethystoglossa and Trianæ, with some good Odontoglossums (Silver Banksian Medal).

Messrs. Stuart Low & Co., Enfield, staged a bright group, including Cattleyas, Læliocattleyas. Cypripediums, Odontoglossums, Odontiodas, the rare Sophronitis violacea, Cymbidium eburneum and insigne, Dendrobium Jamesianum, Oncidium splendidum and sarcodes, the rare Polystachya paniculata, and Brassocatlælia Cooksonii enfieldensis (B.-l. Gratrixiæ × C. Dowiana), having coppery orange sepals and petals and a ruby-coloured lip (Silver Banksian Medal).

Messrs. J. & A. A. McBean, Cooksbridge, staged a select group, including Læliocattleya Euripides (L.-c. Goldcrest × L.-c. Myra), a very pretty cowslip yellow hybrid, some good Odontoglossum crispum, O. armainvillierense and var. xanthotes, O. apterum, &c., with a noble specimen of O. Phœbe, bearing three large branched spikes, in the centre (Silver Banksian Medal).

Mr. E. V. Low, Vale Bridge, Haywards Heath, sent some good Dendrobium chessingtonense, Cypripedium aureum Surprise, and Cattleya Lueddemanniana Stanleyi.

M. Maurice Mertens, Ghent, sent a few good Odontoglossums and Odontiodas.

Messrs. James Veitch & Sons, Chelsea, sent a fine hybrid between Lælia purpurata and Læliocattleya bella, having pale lilac sepals and petals and a broad ruby-purple lip.

Mr. C. F. Waters, Deanlands Nursery, Balcombe, sent a good light form of Cattleya Schrœderæ, and Lycaste Skinneri, Waters' var., a richly-coloured form.

## FIRST-CLASS CERTIFICATE.

ODONTOGLOSSUM CRISPUM SAMUEL GRATRIX.—A very fine variety, having remarkably broad segments, with a zone of light violet blotches, quite confluent on the petals, and the lip blotched with reddish purple in

front of the yellow crest. Exhibited by S. Gratrix, Esq., Whalley Range, Manchester (gr. Mr. Brown).

AWARD OF MERIT.

CATTLEYA DIRCE, WESTONBIRT VAR. (Vulcan × Warscewiczii).—A very handsome hybrid, most like the former in shape, with rosy lilac sepals and petals, and the lip darker with claret purple veining. Exhibited by Lt.-Col. Sir George L. Holford, K.C.V.O.

CULTURAL COMMENDATION.

SOPHRONITIS GRANDIFLORA.—A very fine specimen, bearing nearly 100 flowers. To Mr. H. G. Alexander, Orchid grower to Lt.-Col. Sir George L. Holford, K.C,V.O.

---

At the meeting held on April 2nd there was a very fine display of Orchids, including six medal groups, other awards being three First-class Certificates and five Awards of Merit.

Orchid Committee present :—J. Gurney Fowler, Esq. (in the Chair), and Messrs. J. O'Brien (hon. sec.), Harry J. Veitch, Gurney Wilson, R. A. Rolfe, R. G. Thwaites, F. Sander, F. M. Ogilvie, T. Armstrong, A. A. McBean, J. Charlesworth, W. H. Hatcher, J. E. Shill, A. Dye, H. G. Alexander, W. H. White, J. Wilson Potter, Clive Cookson, W. Bolton, C. J. Lucas, R. Brooman White, de Barri Crawshay, and J. S. Moss.

R. G. Thwaites, Esq., Chessington, Streatham (gr. Mr. J. M. Black), staged a very brilliant little group of about a dozen Odontiodas (which are noted on another page), with a few pretty forms of Odontoglossum armainvillierense (Silver Banksian Medal).

Mrs. Norman Cookson, Oakwood, Wylam-on-Tyne (gr. Mr. H. J. Chapman), sent Odontoglossum crispum nigrum, with very dark spots, and O. percultum pallidum, a light-coloured variety.

De Barri Crawshay, Esq., Rosefield, Sevenoaks (gr. Mr. Stables), sent a richly-coloured form of Odontoglossum Lambeauianum.

E. H. Davidson, Esq., Borlases, Twyford, sent Lycaste Skinneri alba.

Lieut.-Col. Sir George L. Holford, Westonbirt (gr. Mr. H. G. Alexander), sent Cattleya Olaf, a pretty light-coloured hybrid.

Sir Trevor Lawrence, Bart., Burford (gr. Mr. W. H. White), sent a pretty group of yellow-flowered Dendrobiums, with Masdevallia Arminii, caudata, Courtauldiana, Shuttryana Chamberlainii, leontoglossa, Gelenyana, ignea, Henriettæ, and others.

Arthur Legge, Esq., Homefield, Worthing (gr. Mr. Rolfe), sent four very promising seedling Dendrobiums, one from D. nobile nobilius × D. n. elegans being most like the former in size and colour, while D. Arthur Legge (D. n. elegans × ?) was a beautiful light-coloured form.

F. M. Ogilvie, Esq.. The Shrubbery, Oxford (gr. Mr. Balmforth), showed

a white form of Cypripedium Aphrodite, C. Winnifred Hollington, a very fine Miltonia Bleuana rosea, and Brassocattleya Cliftonii magnifica.

Francis Wellesley, Esq., Westfield, Woking (gr. Mr. Hopkins), sent Cattleya Trianæ F. MacBean, a fine blush pink form, with the front lobe of the lip magenta purple.

Messrs. Sander & Sons, St. Albans, staged a very fine group, containing many good Cattleya Schrœderæ and Trianæ, two batches of Renanthera Imschootiana, Dendrobium nobile, Wardianum, and aggregatum, Odontoglossums, Odontiodas, Læliocattleyas, Acanthophippium sylhetense, Gongora truncata, Trichopilia Hennisii, &c., with a magnificant plant of Miltonia St. Andre in the centre (Silver-gilt Flora Medal),

Messrs Charlesworth & Co., Haywards Heath, sent a choice group, including Odontoglossum armainvillierense xanthotes with a magnificent panicle of eleven side branches and forty-seven flowers, a fine O. Rolfeæ, O. crispum with four spikes, O. Lambeauianum, a fine O. brevifolium, O. nebulosum, Odontioda Felicia (O. heatonensis × Odontoglossum Ossulstonii), a beautiful spotted hybrid, a fine O. Vuylstekeæ with six side branches and forty-five flowers, with several others, some fine Læliocattleyas, the rare Dendrobium senile, D. Kingianum, two plants of Sarcochilus Hartmannii, and others (Silver Flora Medal).

Messrs. Stuart Low & Co., Enfield, staged a fine group, containing a good selection of Cattleya Schrœderæ, Oncidium sarcodes, Kramerianum, and concolor, Dendrobium chrysotoxum with ten spikes, D. Brymerianum, Phalænopsis Schillierana, Cymbidium insigne and Schrœderi, Eulophia lurida, Polystachya paniculata, Lycaste Balliæ, Læliocattleya luminosa × Ernestii, a pretty yellow flower with red-purple front lobe to the lip, and others (Silver Flora Medal).

Messrs. Hassall & Co., Southgate, sent a good group, including Cattleya Trianæ Backhouseana, with a purple feather on the petals, some good C. Schrœderæ, Cymbidium eburneum, Odontoglossum percultum, Odontioda Cooksoniæ, &c. (Silver Banksian Medal).

Messrs. J. & A. A. McBean, Cooksbridge, sent a good form of Odontoglossum crispum, armainvillierense xanthotes, and Phœbe, Phaius Norman, Zygopetalum Perrenoudii, Cattleya Mossiæ and C. Schrœderæ, some good Odontioda Bradshawiæ and Charlesworthii (Silver Banksian Medal).

Messrs. Armstrong & Brown, Tunbridge Wells, sent a good specimen of Cœlogyne pandurata, and a fine hybrid between Cypripedium Prewettii and C. Germaine Opoix, with very broad green dorsal sepal, blotched with brown.

Mr. E. V. Low, Vale Bridge, Haywards Heath, sent the beautiful Cattleya Lueddemanniana Stanleyi, C. Trianæ Empress of India, white with light violet front to the lip, and C. Schrœderæ The Kaiser, a blush white form with orange-coloured throat to the lip.

### FIRST-CLASS CERTIFICATES.

CYMBIDIUM PAUWELSII, THE DELL VAR. (Lowianum × insigne).—A fine form, bearing a spike of twenty cream white flowers, faintly lined with purple, and some purple blotching on the lip. Exhibited by Baron Bruno Schröder, The Dell, Egham (gr. Mr. J. E. Shill).

LÆLIOCATTLEYA MCBEANIANA (L. anceps Schrœderiana × Cattleya Schrœderæ).—A very fine flower. with broad blush white sepals and petals, and the lip white, with rose-purple front lobe, the side lobes margined with rose, and the disc yellow. Exhibited by Messrs. J. & A. A. McBean.

LÆLIOCATTLEYA TRIMYRA (Cattleya Trianæ × Lælia Myra).—A rich orange-coloured hybrid.—Exhibited by Sir Trevor Lawrence, Bart.

### AWARDS OF MERIT.

CYPRIPEDIUM ROGER SANDER (Godefroyæ × glaucophyllum).—A pretty cream white flower, beautifully lined and veined, and the lip spotted with claret-purple. Exhibited by Messrs. Sander & Sons.

LÆLIOCATTLEYA BOYLEI, VEITCH'S VAR. (L. anceps Schrœderiana × C. Trianæ).—A charming form, having rose pink sepals and petals, and the lip rich purple with a bright yellow disc. Exhibited by Messrs. James Veitch & Sons.

LÆLIOCATTLEYA ORAMA (Dominiana × bletchleyensis).—A very fine hybrid, having purple-rose sepals and petals, and a dark claret-purple lip, with two deep yellow eyes in the throat. Exhibited by Messrs. James Veitch & Sons.

ODONTIODA GOODSONLE, COBB'S VAR. (C. Nœtzliana × Odontoglossum armainvillierense).—A very fine form, having bright crimson-scarlet flowers, with many small whitish markings. Exhibited by Walter Cobb, Esq., Normanhurst, Rusper (gr. Mr. C. J. Salter).

ODONTOGLOSSUM MIRUM VAR. HIS MAJESTY.—A very fine form, having cream white flowers, well blotched with chocolate-purple. Exhibited by Lieut.-Col. Sir George L. Holford, K.C.V.O.

---

### MANCHESTER AND NORTH OF ENGLAND ORCHID.

At the meeting held on March 7th, the members of Committee present were:—Rev. J. Crombleholme (in the Chair), Messrs. R. Ashworth, J. Bamber, C. Parker, H. Thorp, Z. A. Ward, J. C. Cowan, J. Cypher, J. Evans, W. Holmes, A. J. Keeling, D. McLeod, and H. Arthur (Secretary).

Z. A. Ward, Esq., Northenden (gr. Mr. Weatherby), was awarded a Silver-gilt Medal for a group of well-grown Odontoglossums, Odontioda Cooksoniæ and Goodsoniæ, and Cypripediums.

W. R. Lee, Esq., Heywood (gr. Mr. Branch), was awarded a Silver Medal for some fine Odontoglossums, Dendrobium Wardianum album, D. atroviolaceum, and Cypripediums.

Col. J. Rutherford, M.P., Blackburn (gr. Mr. Lupton), received a Silver Medal for a nice mixed group, including Odontoglossum Jasper, Beardwood var. and others, the rare Cymbidium Sanderæ, Læliocattleya callistoglossa, Cattleya Trianæ alba, and others, with a few Cypripediums.

J. McCartney, Esq., Bolton (gr. Mr. Holmes), was also awarded a Silver Medal for a group composed principally of Cattleya Trianæ, Cypripedium nitens, His Majesty, with others, and the pretty Lælia flava.

Rev. J. Crombleholme, Clayton-le-Moors (gr. Mr. Marshall), had a small but effective group of Odontoglossums and Cypripediums, nicely arranged with ferns and small palms.

A. Warburton, Esq., Haslingden (gr. Mr. Dalgleish), was awarded a Silver Medal for a group of fine Odontoglossums, Cypripedium Rothschildianum, Thompsonii and Archimedes nigrum, with Cattleyas Schrœderæ, White Queen, and others.

O. O. Wrigley, Esq., Bury (gr. Mr. Rogers), staged Phalænopsis grandiflora, Dendrobium primulinum, Cypripediums Beryl, Beeckmanii, Invincible, Hindeanum, and a well-grown C. Rothschildianum carrying four spikes.

J. J. Holden, Esq., Southport (gr. Mr. Johnson), sent Cypripedium Our Queen.

H. Thorp, Esq., Rhodes, staged Cypripedium aureum Surprise.

Messrs. J. Cypher & Sons, Cheltenham, were awarded a Silver Medal for a nice mixed group of Dendrobiums, Cattleya Trianæ alba, Læliocattleya Lady Miller, Lælia Gwennie, Zygopetalum crinitum, Masdevallia gargantua, Lycaste plana, and some good Cypripediums.

Messrs. Sander & Sons, St. Albans, were awarded a Silver Medal for a mixed group of Cypripediums, Lycaste Tunstillii and hybrida, Brassocattleya langleyensis, Cymbidium eburneo-Lowianum, and Renanthera coccinea.

Messrs. Charlesworth & Co., Haywards Heath, staged Odontoglossum Dora, eximium, Doris, Ossulstonii and Phædra, Odontioda heatonensis, and Bradshawiæ.

Messrs. Hassall & Co., Southgate, staged Cypripedium Maudiæ, Cattleya Trianæ, Odontoglossum Ianthe, and O. ardentissimum.

Mr. J. Evans, Congleton, staged a good white form of Odontoglossum crispum and three blotched hybrids.

Messrs. A. J. Keeling & Sons, Bradford, staged Cattleya Niobe, Dendrobium luteolum, and Cattleya Albertiana.

Mr. W. Shackleton, Great Horton, staged Cattleya Trianæ, Highfield var., Cypripedium Lady Gay, and Odontoglossum Vuylstekei × Harryanum.

### FIRST-CLASS CERTIFICATE.

Odontoglossum Memoria King Edward VII. (parentage unknown). A fine large flower, of solid colour, with the tips of the segments white; from J. J. Holden, Esq.

AWARDS OF MERIT.

Cattleya Cappei (Trianæ × Schrœderæ); from J. J. Holden, Esq.

Odontoglossum triumphans, Ward's var.; from Z. A. Ward, Esq.

Cypripediam Carola (Euryades splendens × Thompsonii); from. Wm. Thompson, Esq.

---

AT the meeting held on Thursday, March 21st, the members of Committee present were:—Rev. J. Crombleholme (in the Chair), Messrs. C. Parker, H. Thorp, A. Warburton, Z. A. Ward, J. Cypher, J. Evans, W. Holmes, A. J. Keeling, D. McLeod, and H. Arthur (Secretary).

Z. A. Ward, Esq., Northenden (gr. Mr. Weatherby), was awarded a Silver-gilt Medal for a well-staged group, Odontoglossums predominating, the choice hybrids making a fine diversity of colour, with Odontiodas, Cypripedium aureum virginale, Euryades magnificum and Miltonia Warscewiczii.

S. Gratrix, Esq., Whalley Range (gr. Mr. Brown), was also awarded a Silver-gilt Medal for an excellent group, including Cattleya Trianæ alba, C. Schrœderæ, Dendrobium Wardianum, nobile virginale, Rubens, Harold, Cybele, Owenianum, Schneiderianum, and Cooksonii, and a fine plant of Odontoglossum crispum, Leonard Perfect, and others, making a fine display.

W. R. Lee, Esq., Heywood (gr. Mr. Branch), was awarded a Silver Medal for an effective group, principally Dendrobium Wardianum, Rubens, Ainsworthii, Cooksonii, atroviolaceum, and Brymerianum, with a fine form of Cattleya Schrœderæ, Brassocattleya langleyensis var. Bradshawiæ, &c.

Col. J. Rutherford, M.P., Blackburn (gr. Mr. Lupton), was awarded a Silver Medal for a nice group, including Odontoglossums of the crispum section, white and spotted, several good forms of O. Rossii, Pescatorei, and Cervantesii, Cattleya Trianæ alba, Brassocattleya Warneri, &c.

J. McCartney, Esq., Bolton (gr. Mr. Holmes), was also awarded a Silver Medal for a nice group, including Cattleya Schrœderæ Diadem, alba, and Model, several good forms of C. Trianæ, C. Parthenia Prince of Wales, Læliocattleya Hypatia, Lælia flava, and others.

Rev. J. Crombleholme, Clayton-le-Moors (gr. Mr. Marshall), was awarded a Bronze Medal for a small group of Odontoglossum crispum in variety, Cypripedium villexul, concolor, Actæus Gratrixiæ, hirsutissimum, aureum virginale and Leopoldianum, Mortonii albens, and Lathamianum Rex.

O. O. Wrigley, Esq., Bury (gr. Mr. Rogers), staged a plant of Lycaste Skinneri alba, with twenty-six flowers fully open, Odontoglossum crispum, several Cypripedium villosum, and a few plants of Lælia Jongheana.

A. Warburton, Esq., Haslingden, staged Cypripedium Mrs. Cary-Batten.

C. Parker, Esq., Preston, staged a plant of Cypripedium Harrisander.

H. Thorp, Esq., Middleton, staged Cypripedium Flamingo, Hera, and Dendrobium Cybele nobilior.

Messrs. Sander & Sons, St. Albans, staged Odontioda Charlesworthii, Odontoglossum eximium var. Flambeau, and several hybrids from O. crispum Graireanum.

Messrs. Charlesworth & Co., Haywards Heath, staged Odontoglossum Dora, illustrissimum, Jasper, and Odontioda Bradshawiæ.

Messrs. A. J. Keeling & Sons, Bradford, staged Dendrobium Rubens

Fig. 23. ODONTOGLOSSUM ROSSII IMMACULATUM (see p. 158).

grandiflorum, D. Ainsworthii intertextum, Miltonia Rœzlii, and a nice form of Odontoglossum crispum.

Messrs. Stuart Low & Co., Enfield, staged Brassocattleya Maronii and a few good Cattleyas.

### FIRST-CLASS CERTIFICATES.

Odontioda Charlesworthii Ward's var.—Flowers not very large but intense dark crimson all over; from Z. A. Ward, Esq.

Odontioda Schrœderi var. Leeana.—Flowers three inches across, very round and bright colour; tips of sepals, petals and lip of a lighter shade; from W. R. Lee, Esq.

Cymbidium Parishii Sanderæ Rutherford's var.—Flowers pure white, with purple markings on the lip; from Col. J. Rutherford, M.P.

AWARDS OF MERIT.

Lycaste Susan.—A natural hybrid; from Mrs. Gratrix, Whalley Range.

Odontoglossum amabile vars. Monarch, Darkness, and Beauty; O. crispum var. Ethel; Odontioda splendens (O. gloriosum × C. Nœtzliana); and Cypripedium The Chairman (Fairrieanum × Goultenianum); from Z. A. Ward, Esq.

Cattleya Suzanne Hye, Gratrix's var., and Cypripedium Prince Albert var. Alport Derby; from S. Gratrix, Esq.

Læliocattleya bella alba var. Leeana, Odontoglossum Cobbiæ, and Dendrobium nobile var. Leeanum; from W. R. Lee, Esq.

Cymbidium Pauwelsii (Lowianum concolor × insigne); from Col. J. Rutherford, M.P.

Odontoglossum Rossii var. immaculatum; from H. Arthur, Esq. (See figure on preceding page).

Cattleya Schrœderæ enfieldiensis; from Messrs. Stuart Low & Co.

CULTURAL CERTIFICATE AND BRONZE MEDAL.

To Mr. Brown, gr. to S. Gratrix, Esq., for a plant of Odontoglossum crispum var. Samuel Gratrix, carrying a magnificent spike.

---

N.B.—The plant of Odontoglossum Delhi (F.-c. C.) exhibited by J. J. Holden, Esq., Southport, on January 11th, 1912, has been entered on the records of the Society as O. promerens var. Delhi.

---

NORTH OF ENGLAND HORTICULTURAL.

AT the meeting held at Bradford on March 14th, the following awards were made by the Orchid Committee:—

Large Silver Medals to J. F. Craven, Esq., Keighley (gr. Mr. F. W. Craven), J. Hartley, Esq., Morley (gr. Mr. W. Coupe), and Mr. W. Shackleton, Bradford.

Silver Medals to N. Galloway, Esq., Bradford, Messrs. A. J. Keeling & Sons, Bradford, and Messrs, Mansell & Hatcher, Rawdon.

Bronze Medal to Mr. E. V. Low, Haywards Heath.

Vote of Thanks to the Rev. T. Gurney Little, West Ayton (gr. Mr. G. Howden).

First-class Diplomas to Dendrobium Cybele album, from W. H. St. Quintin, Esq. (gr. Mr. F. C. Puddle), and Odontioda eboriaca, from J. H. Craven, Esq.

Second-class Diplomas to Dendrobium chessingtonense and D. nobile, Thwaites var., both from J. Hartley, Esq.

---

By some inexplicable mistake the date of the last meeting was given at page 126 as March 22nd. It should have been February 22nd.

## ORCHID NOTES AND NEWS.

THE next meeting of the Royal Horticultural Society will be held at the Royal Horticultural Hall, Westminster, on May 14th, when the Orchid Committee will meet at the usual hour, 12 o'clock noon.

The Manchester and North of England Orchid Society will hold meetings at the Coal Exchange, Manchester, on May 2nd and 16th. The Committee meets at noon, and the exhibits are open to inspection from 1 to 4 p.m. There will be no meeting on May 30th, owing to the great Show in London, the date being altered to June 6th, when the last meeting of the Society's year will be held at the usual hour, and the Annual Meeting at 3 p.m.

The great event of the month is the Royal International Horticultural Exhibition, to be held in the grounds of the Royal Hospital, Chelsea, from May 22nd to 30th. The Show will be opened at noon on May 22nd by His Majesty the King. An official account of the Orchid entries was given in our last issue, and exhibitors are reminded that Wednesday, May 1st, is the latest date for making any alterations or withdrawals which may be occasioned by exigencies of weather, season, or other causes.

The Vienna Horticultural Society is arranging a 10-day excursion to London for the International Exhibition. The party will start on May 22nd, and will proceed straight to London. In addition to visiting the Exhibition, visits will also be made to the principal nurseries, Kew, the R.H.S. gardens at Wisley, Hampton Court, and other places. On the return journey, a halt will be made at Rotterdam, and a day or two spent in Holland and Belgium, the programme terminating at Frankfort-on-Main, after a visit to the celebrated Palm garden in that city. A party is also coming from the United States.

The Birmingham Botanical and Horticultural Society have decided to hold two Flower Shows during the present summer, at the Botanical Gardens, Edgbaston. The first will be held on June 12th (Orchids and early Summer flowers) and the second on July 17th (Roses and Midsummer flowers). Honorary Exhibits will be welcomed. Particulars may be obtained from the Hon. Secretaries, Botanical Gardens, Edgbaston.

At the Doncaster meeting of the Royal Agricultural Society of England, to be held from July 3rd to 6th, 1912, prizes of £10, £5, and £3 are offered for a Collection of Orchids, arranged for effect on a stage 100 feet square, with a Gold Medal in addition to the best exhibit. Palms, ferns, or other suitable foliage plants may be used to give effect to the exhibit. Entries to be sent to Mr. Peter Blair, Trentham Gardens, before Friday, May 31st.

## ACRIOPSIS RIDLEYI.

THIS species has hitherto only been known from a single specimen, which was found on a pepper post at Bukit Mandai, in the Island of Singapore, and Mr. N. N. Ridley, the discoverer, remarked: "It had, I think, been planted there, having been found in the jungle close by when the forest was felled to make the pepper gardens." It was described by Sir Joseph Hooker (*Fl. Brit. Ind.*, vi. p. 79) from a drawing sent by Mr. Ridley. It is interesting to record that a plant has now appeared in the collection of Sir Trevor Lawrence, Bart., at Burford, it having been received from Dr. Schlechter as A. javanicum. There were two plants, and when they flowered one of them proved different, hence materials were sent to Kew for determination, when one was found to agree with the drawing of A. Ridleyi. It is not known when the plants were collected. R. A. R.

## ORCHID PORTRAITS.

CATTLEYA DIRCE, WESTONBIRT VAR.—*Gard. Chron.*, 1912, i. p. 226, fig. 102.

CYMBIDIUM EBURNEUM (SPECIMEN PLANT).—*Journ. Hort.*, 1912, i. p. 231, with fig.

CYPRIPEDIUM SPECTABILE.—*Garden*, 1912, p. 131, with fig.

LÆLIOCATTLEYA MCBEANIANA.—*Gard. Chron.*, 1912, i. p. 237, fig. 107.

ODONTOGLOSSUM CRISPUM SAGA.—*Gard. Chron.*, 1912, i. p. 267, fig. 125.

SCHOMBURGKIA LUEDDEMANNIANA, Prill.—*Bot. Mag.*, t. 8427.

VANDA WATSONI.—*Garden*, 1912, p. 110, with fig.

## ANSWER TO CORRESPONDENTS.

[*Orchids are named and questions answered here as far as possible. Correspondents are requested to give the native country or parentage of plants sent. An* ADDRESSED *postcard must be sent if a reply by post is desired (abroad, reply postcards should be used). Subjects of special interest will be dealt with in the body of the work.*]

W.C.S.—The flower from Laeliocattleya callistoglossa × Cattleya Mendelii is excellent, both in shape and colour. The Odontoglossum sent is a form of O. Lambeauianum. O. Japonais is supposed to have the same parentage, but the colour and markings are different, and the point requires confirmation.

P.B.—Oncidium luridum. Lindl.

E.E.C.—Odontoglossum Rossii majus, a large flowered form of the species. The Cypripedium may have been from C. Leeanum × Schlesingerianum, as suggested, but it is of little value unless it improves greatly.

J.F.S.—We suggest that the stray seedling be allowed to flower again to see if the deformity is repeated. We cannot suggest the parentage in this state, unless it be a form of Læliocattleya Nysa.

CATALOGUE RECEIVED.—We have received the Descriptive and Priced Catalogue issued by Messrs. Charlesworth & Co., Haywards Heath, containing a fine series of species and hybrids. It is illustrated by nine beautiful coloured plates, representing the following Orchids, each of which received the award of a First-class Certificate from the R.H.S. in 1911:—Cattleya Rhoda illuminata, Laeliocattleya Sylvia, Odontioda Euterpe, Odontoglossum Harwoodii, and Shrubbery var., O. Jeanette, O. Ossulstonii Shrubbery var., Sophrocattleya Lottie Müller, and Sophrocatlælia Jeanette.

We have received from the Agricultural and Horticultural Association, Ltd., 92, Long Acre, London, copies of the One & All Garden Books, *Carnations*, by the late James Douglas, F.R.H.S., and *Poppies*, by George Gordon, V.M.H. Price one penny, and well lustrated.

VOL. XX., No. 234. THE JUNE, 1912.

# ORCHID REVIEW

Edited by R. ALLEN ROLFE, A.L.S.

## Contents.


| | PAGE |
|---|---|
| Aërides japonicum ... ... ... ... | 174 |
| Amateur's Collection ... ... ... | 174 |
| Answers to Correspondents ... ... | 192 |
| Arachnanthe Lowii, fertilisation of ... | 192 |
| Bull's Orchid Exhibition ... ... ... | 176 |
| Calendar of Operations for June ... ... | 178 |
| Orchid Conference ... ... ... ... | 190 |
| Orchid Exhibition, Messrs. W. Bull & Sons' | 176 |
| Orchid Notes and News ... ... ... | 191 |
| Orchid Portraits ... ... ... ... | 192 |
| Orchids at the Royal Society's Conversazione ... ... ... ... ... | 191 |
| Orchids in season ... ... ... ... | 173 |
| Our Note Book ... ... ... ... | 161 |
| Royal International Horticultural Exhibition ... ... ... ... ... | 163 |
| Sir Harry J. Veitch ... ... ... ... | 173 |
| Societies— | 181 |
| Manchester and North of England Orchid ... ... ... ... ... | 186 |
| Royal Horticultural ... ... ... | 181 |
| Stanhopea grandiflora and S. Bucephalus | 172 |
| Vuylstekeara Hyeana ... ... ... | 171 |

ILLUSTRATIONS.

| | |
|---|---|
| Odontoglossum crispum Perfect Gem ... | 189 |
| Odontoglossum crispum Solum ... ... | 169 |
| Odontoglossum warnhamense var. Stevensii | 177 |


**PRICE SIXPENCE MONTHLY.** POST FREE 7/- PER ANNUM—SEE OVERLEAF.


# SANDER & SONS.

We receive fortnightly fresh consignments of the best

**OSMUNDA REGALIS FIBRE**

from our own freehold lands, situated in the best Osmunda producing territory of the United States of America. Price per bushel, **2/6**; per bag, **8/6.**

BY APPOINTMENT TO HIS MAJESTY THE KING.

# *William Bull & Sons*

**WORLD-RENOWNED ORCHIDS.**

HYBRIDS A GREAT SPECIALITY.

Catalogue free on application.

**KING'S ROAD, CHELSEA, LONDON.**

# NOTICES

The ORCHID REVIEW is published regularly at the beginning of each month price 6d. net. Annual Subscription, post free, 7/-, payable in advance.

Volumes I. to XIX. can be supplied unbound at 6/-, or bound in cloth, 7/6, postage extra.—Cost of postage: book post, 9d. per volume; parcel post within the United Kingdom only, 5d. per single volume (series by weight).

Also cases for binding either volume at 1/6 each, post free throughout the postal union.

The ORCHID STUD-BOOK. By R. A. Rolfe and C. C. Hurst. By Parcel Post, 7/11. Abroad, by Book Post, 8/3.

All Subscriptions, Advertisements, Communications and Books for review, should be addressed:—The **Editor of the Orchid Review**, Lawn Crescent, Kew.

Cheques and Postal Orders (sent as above) should be made payable to FRANK LESLIE & Co., and, to ensure safety in transit, should be crossed "& Co."

*Agents for copies supplied through the Trade—*

**MARSHALL BROTHERS, Ltd.**, KESWICK HOUSE, PATERNOSTER ROW, LONDON, E.C.

## SCALE OF CHARGES FOR ADVERTISEMENTS.

| | £ | s. | d. |
|---|---|---|---|
| Five lines and under in column ... | 0 | 2 | 6 |
| Per line after ... ... ... ... | 0 | 0 | 6 |
| One-eighth column... ... ... ... | 0 | 4 | 0 |
| Quarter column or eighth page ... | 0 | 7 | 0 |
| Half column or quarter page ... | 0 | 12 | 0 |
| One column or half page ... ... | 1 | 2 | 6 |
| Whole page ... ... ... ... ... | 2 | 0 | 0 |

The Editor invites communications on interesting subjects (which should be written on one side of the paper only), also portraits, &c., of rarities.

Advertisements and late news should be received not later than the 24th of the month.


# CHARLESWORTH & Co.,

ORCHID RAISERS, GROWERS,
IMPORTERS AND EXPORTERS,

# HAYWARDS HEATH,

SUSSEX,

Invite their Patrons and Friends to pay them a visit of inspection at their New Establishment,
——————where may be seen the——————

## Finest Trade Collection of Orchids in Europe.

A Conveyance will be at the Railway Station to meet Visitors, upon notification being kindly given.

CONTINENTAL BRANCH—RUE GERARD, BRUSSELS.

Telephone No. 50 Haywards Heath. Telegrams:—Charlesworths, Haywards Heath.

Please Address—CHARLESWORTH & Co., Haywards Heath, Sussex.

# THE ORCHID REVIEW.

VOL. XX.] *JUNE*, 1912. [No. 234.

## OUR NOTE BOOK.

THE event of the month is the long anticipated Royal International Horticultural Exhibition, which at the moment of writing is in progress in the grounds of the Royal Hospital, Chelsea. The Orchids—with which alone we are concerned—are by common consent the great feature of the exhibition, the magnificent group staged by Sir George L. Holford, to which His Majesty the King's Cup was awarded, as the most meritorious exhibit in the Show, never having been equalled anywhere. The extensive groups staged by Messrs. Charlesworth & Co., and by Messrs. Sander & Sons, are in advance of anything before attempted by them, and other trade firms made a special effort to eclipse their previous records. The competitive groups staged by F. M. Ogilvie, Esq., and Sir Jeremiah Colman, were also superb, and a few very choice groups came from abroad, the result being such a display as has never before been seen at any exhibition.

———

There is nothing with which it can be compared except the Temple Shows of recent years, for the Orchid Conference of 1885, which produced such a fine display, is too remote, and a world of progress has been made since the last great International Exhibition was held in London in 1866—forty-six years ago. Hybridisation was then in its infancy; and the number of hybrid Orchids that had flowered could almost have been counted on the fingers of both hands. Incredible as it may seem, the first hybrid Cypripedium had not then reached the flowering stage. To-day we are in the Hybrid Age, and a glance round the Exhibition will show how much we owe to the persistent efforts of the hybridist; in fact, in some of the more popular genera the hybrids far outnumber the species. Such progress has well been termed a revolution, and we may cite an example in Odontoglossum, which for so long defied the efforts of the hybridist, while the union of Odontoglossum with Cochlioda has given in the hybrid genus Odontioda a new and brilliant race to our gardens. The latter were represented literally in hundreds, and no more striking horticultural development has been witnessed during recent years.

But in spite of the magnificent display of Orchids we confess to a feeling of disappointment in the number of unfilled classes, for which ample material was available. Some of the exhibitors appear to have limited their efforts to making one splendid display, with the result that a few of the groups were too big. It was too much like a Temple Show on an enlarged scale—except that there was plenty of room to move about. We had hoped that the numerous valuable prizes offered would have produced a good competition, but for some mysterious reason this was not the case. Whether the competitive classes were generally too big or the period of the Show too long—on both of which we heard opinions expressed—we cannot say, but even the classes for such popular subjects as Odontoglossums and for Cochlioda hybrids were, as far as we could ascertain, blank, in spite of the quantities in which these plants were shown. Even where there was competition some of the groups in the same class were not staged together, while in other cases different groups, even by the same exhibitor, were staged without any appreciable dividing line, making it very difficult to identify and compare them. Even the Jury must have felt the difficulty, for one or two groups were missed altogether, as was commented on after the Show opened. As for the schedule the only one that we could obtain indicated, not the groups actually present, or even entered, but only those that might have been there. It was consequently useless.

---

We are not alone in suggesting that some of the groups were too big, for the opinion was expressed by one of the most successful exhibitors, who very aptly remarked that there was such an amount of individuality in Orchids that the detail was lost in the over-large groups staged. We had hoped to see a good competition in several special classes, and some examples of good culture, but these classes were largely ignored. A few such groups were present, but the majority of the really fine plants were lost in a mass of miscellaneous things arranged solely for effect.

---

As regards tasteful arrangement within the groups themselves the effect generally was excellent, also the quality and culture of the exhibits, but it is matter for regret that exhibitors, and especially amateurs, did not enter into a more spirited competition in the competitive classes, in which so many valuable prizes were offered. So much for a few general impressions, for the details themselves we must refer readers to the special report of the Show. In this we have endeavoured to follow the Schedule of Prizes as far as possible, but owing to the large number of blanks, and the great preponderance of miscellaneous groups staged not for competition, the idea has been difficult to carry out.

## THE ROYAL INTERNATIONAL HORTICULTURAL EXHIBITION.

THE Royal International Horticultural Exhibition, which was opened by their Majesties the King and Queen at midday on Wednesday, May 22nd, in the grounds of the Royal Hospital, Chelsea, brought together a magnificent display of Orchids, the like of which has never been seen before. As previously announced, thirty-three classes were set apart for Orchids, and entries were received from a large number of exhibitors, British and foreign, the majority of whom put in an appearance.

A special tent was erected for the Orchids, 250 feet long by 70 feet broad, with hot water pipes beneath the stages to prevent an undue fall of temperature, and electric lighting was installed throughout, so that the exhibits could be examined till closing time, ten p.m. A broad stage was erected down the centre of the Orchid tent, with two side stages and an additional stage at one end. A few stove plants encroached upon part of the side stages, but otherwise this area was entirely devoted to Orchids, and the general effect was brilliant in the extreme.

For the best and most varied group staged by an amateur in a space not exceeding 500 square feet, the first prize, consisting of Messrs. Sander & Sons' Cup and £10, was won by F. M. Ogilvie, Esq., The Shrubbery, Oxford, with a magnificent group, which had been very tastefully arranged by Mr. Balmforth. It contained a beautiful series of Odontoglossum crispum varieties aggregating some 300 spikes, and including three of the best forms of O. c. xanthotes, known as hololeucum, Charlesworthii, and Snow Queen, with a number of handsomely-blotched forms, O. Harwoodii, Shrubbery var., O. Uroskinneri album, and other species and hybrids, about three dozen brilliant Odontiodas, a little cluster of O. Charlesworthii, and a form of O. Diana being very fine, some thirty plants of Dendrobium Thwaitesæ with about 1500 of its richly-coloured flowers, some fifty well-grown Læliocattleya Canhamiana, and other handsome Læliocattleyas, Brassocatlælia Veitchii, a series of Brassocattleyas, including the beautiful B.-c. Veitchii var. Queen Alexandra, thirty fine plants of the chaste Cattleya Dusseldorfii Undine, many fine C. Mossiæ, Mendelii, and others, Phalænopsis amabilis and Lueddemanniana, Thunias, Epidendrums, a fine series of albino Cypripediums, including about 150 flowers of C. callosum Sanderæ, with many C. Lawrenceanum Hyeanum and C. Maudiæ, some fine Miltonias, Trichopilia Backhouseana, and others too numerous to particularise. Some of the leading forms were massed together, and the colours contrasted in a very effective way, the plants being staged in a setting of delicate ferns.

The second prize in the same class, Messrs. Charlesworth & Co.'s Cup and £7, was won by Sir Jeremiah Colman, Bart., Gatton Park (gr. Mr.

Collier), with another very fine group, the centre of which consisted of a batch of brilliant Odontiodas, including forms of O. Bradshawiæ, Vuylstekeæ, heatonensis, Papilio, chelseiensis, gattonensis, and several others. Of O. Bradshawiæ there were twenty-six plants, bearing forty-six spikes, and over one thousand flowers, and these are said to have all been raised from one seed pod in 1906; one plant bore two branched spikes and over a hundred flowers. These were interspersed with Odontoglossums, which extended out on either side into a very effective arrangement, the forms of O. crispum being very numerous and beautiful, and many other species and hybrids were well shown. The Cattleyas also formed a fine series, and together with forms of Lælia purpurata, Læliocattleyas, some beautiful Miltonias, Dendrobiums—among which two hybrids of D. regium were very interesting—some brilliant Masdevallias, Cymbidiums, Brassodiacrium Colmanii, Diacattleya Colmaniæ, Zygopetalum rostratum, Cœlogyne Dayana, Parishii, aspersa, and tomentosa, with representatives of many other genera, the whole being remarkably well-grown and forming a most effective display.

In a corresponding class for Nurserymen, the second prize, W. Duncan Tucker's Cup, was awarded to Messrs. Mansell & Hatcher, Rawdon, E. Yorks, for a very fine group, arranged in the form of three rounded banks, with two intervening dells, the latter being filled with a mass of the brilliant Renanthera Imschootiana, with feathery sprays of Phalænopsis amabilis Rimestadiana above. The banks were composed of masses of brilliant Cattleyas, Læliocattleyas, Brassocattleyas, Odontoglossums, some well-flowered Vanda teres, Cypripediums, Odontiodas, Anguloa Ruckeri, Cirrhopetalum Collettii, Cypripedium niveum, bellatulum and Druryi, Miltonia vexillaria, Masdevallias, &c., with some graceful Oncidium Marshallianum and Cymbidium Lowianum behind. One of the gems of this group was Odontioda Cleopatra (O. Lairessei × C. Nœtzliana), having light-coloured acuminate sepals and petals, tinged with violet at the margins, and blotched with deep chocolate red.

In the Nurserymens class for the best and most varied group of species and varieties, not exceeding 200 square feet, the first prize, a Gold Medal, was won by Messrs. Stuart Low & Co., Enfield, with a brilliant group, the centre being made up of Renanthera Imschootiana, with numerous Cattleya Mossiæ and Mendelii, C. Skinneri alba, Cypripediums, Epidendrum ionosmum, Oncidium Marshallianum, Cœlogyne pandurata, Vanda teres, Miltonia vexillaria, Lælia purpurata, numerous species of Odontoglossum, Dendrobiums, and a number of interesting botanical Orchids.

The second prize, a Silver Cup, went to Messrs. J. Cypher & Sons, Cheltenham, for a brilliant group, containing fine examples of Cattleya Mossiæ, Skinneri, and others, Lælia purpurata, Dendrobium nobile,

Jamesianum, and thyrsiflorum, Miltonia vexillaria, a well-flowered Masdevallia tovarensis, a good plant of the rare M. rosea, Vanda teres and var. gigantea, Phalænopsis amabilis and numerous other good things.

A corresponding class for Amateurs was blank.

In the Nurserymens class for the best and most varied group of hybrids raised by the exhibitor, in a space not exceeding 200 square feet, the first prize, Baron Bruno Schröder's Cup, was won by Messrs. Armstrong & Brown, Tunbridge Wells, with a magnificent group, including many good forms of Læliocattleya Fascinator and Aphrodite, L.-c. callistoglossa ignescens, two fine L.-c. Hyeana, L.-c. Canhamiana alba and Rex, a series of Lælia cinnabarina hybrids, some good Cattleyas, some fine Cymbidiums and Odontoglossum Edwardii crosses behind, with many other Odontoglossums in the centre, and a varied and brilliant series of Odontiodas in front. The group was also very effectively arranged.

A Silver Cup, offered as a second prize, was won by Messrs. James Cypher & Sons, whose group contained some fine Læliocattleya Fascinator, Hyeana, Wellsiana, Baden-Powell; Lælia cinnabrosa, a number of Brassavola Digbyana hybrids, Cypripediums, Cattleya Dietrichiana, and various other fine things.

A corresponding class for Amateurs produced no exhibit.

In a class for twenty-five Lælias, Cattleyas, and Brassavolas, their varieties and hybrids, the only exhibitor was M. Ch. Maron, Brunoy, France, to whom the first prize, a Silver-gilt Medal, was awarded, the group containing Brassocattleya Veitchii, three good B.-c. Vilmoriniana, B.-c. Maronii, B.-c. striata, Læliocattleya Yellow Prince, L.-c. Canhamiana alba, L.-c. Boylei var. Kerchoviæ, L.-c. Greenwoodii, L.-c. Henrietta (L.-c. Greenwoodii × C. Lueddemanniana), a good intermediate form, Epilælia distincta (L. harpophylla × E. atropurpureum, with three racemes, and several other good things.

For the best twelve plants of the same there were two exhibitors, the second prize, a Silver Medal, being awarded to J. McCartney, Esq., Hey House, Bolton (gr. Mr. Holmes), whose exhibit contained Cattleya Mossiæ and var. Reineckeana, C. Frederickiæ, C. Dusseldorfii Undine, Lælia purpurata Russelliana, L. cinnabrosa, Læliocattleya Canhamiana, Brassocattleya Veitchii, and others.

The third prize went to Mr. W. A. Manda, St. Albans, for forms of the popular species of Cattleya.

Two similar classes were set apart for groups of 100 square feet in extent, one of them for white varieties, but did not produce a single exhibit.

In the class for 100 Orchids in not less than twenty-five species, varieties, or hybrids, the first prize, a Gold Medal, was won by Messrs. Armstrong & Brown, Tunbridge Wells, conspicuous in this group being

some fine Cymbidium Lowianum, Cœlogyne pandurata, Cattleya Skinneri alba and others, Phalænopsis amabilis Rimestadiana, Miltonia vexillaria, Odontoglossum crispum Solum, and other fine things, the staging being also carried out with excellent effect.

In an Amateur's class for fifty Orchids in not less than twenty-five species, varieties or hybrids, the first prize of a Gold Medal went to M. Firmin Lambeau, Brussels, for a very choice group, including the handsome Odontioda Coronation, with a spike of twenty flowers, O. Ajax, having bright red flowers margined with white on the lip, O. Bradshawiæ Vogelsang, with a rosy suffusion and dark red blotches on the sepals and petals, Cochlioda Nœtzliana, Miltonia Hyeana Vogelsang and maxima, M. vexillaria Sanderiana and others, and some handsome Cattleyas, Læliocattleyas and Odontoglossums.

In a corresponding class for Nurserymen the Gold Medal was won by Mr. H. Dixon, Spencer Park Nursery, Wandsworth Common, his group containing a beautiful specimen of Oncidium phymatochilum, O. Marshallianum, Dendrobium Jamesianum, D. thyrsiflorum and D. nobile virginale, Cœlogyne pandurata, Cattleya Dusseldorfii Undine, Brassocattleya Mariæ, Læliocattleya Canhamiana, Phalænopsis amabilis, Maxillaria Sanderiana, Cypripedium bellatulum, and others, Odontioda Diana, Charlesworthii and Bradshawiæ, Odontoglossum hastilabium and other good Odontoglossums.

The second prize, a Silver Cup, was won by Mr. W. A. Manda, St. Albans, with a good and varied group.

For a group of Orchids of botanical interest, not necessarily in flower, in a space not exceeding twenty square feet, the first prize, a Silver-gilt Medal, was won by Sir Jeremiah Colman, Bart., Gatton Park (gr. Mr. J. Collier), with a very interesting collection, in which we noted the remarkable Bulbophyllum virescens, in bud, B. inflatum with five spikes, B. macranthum, nigripetalum, mirum, erythrostachyum and tremulum, Eulophia Saundersiana, Lockhartia robusta, Nephelaphyllum pulchrum, Nanodes Medusæ, Eria pannea, Masdevallia Courtauldiana, xipheres, calura, Chimæra, simula, O'Brieniana, and others, the rare Chondrorhyncha Lendyana, Ponera juncifolia, Microstylis commelynifolia, and others too numerous to particularise. It may be remarked here that the two groups staged from the Gatton collection contained about 112 different kinds and an aggregate of over 530 plants.

In the class for Ornamental foliaged Orchids, not necessarily in flower, in a space not exceeding 100 square feet, the only exhibit was ten plants of a remarkable Habenaria hybrid, derived from H. carnea × militaris, shown by M. A. Regnier, Fontenay-sous-bois, France, to which the third prize of a Silver Medal was awarded. It is more robust than H. militaris, with handsomely marked leaves, and the flowers were flesh-coloured in the one plant

in bloom. We were afterwards told that other plants, showing a remarkable variation in colour, were shown somewhere in the French section, where they were quite overlooked.

For the best twelve specimen Orchids, the second prize, a Silver Cup, was awarded to E. H. Davidson, Esq., Borlases, Twyford (gr. Mr. Cooper), his group containing Lycaste Skinneri alba, a white form of Lælia purpurata, Odontoglossum Uroskinneri, some good Odontoglossum crispum, Miltonia vexillaria, Læliocattleyas, &c.

For the best six specimen Orchids the second prize, a Silver Cup, was awarded to Mr. W. A. Manda, St. Albans, for some well-flowered Cattleyas.

For a specimen Orchid, Mr. W. A. Manda, St. Albans was first with a good Cattleya Warscewiczii, bearing six racemes, and J. McCartney, Esq., Bolton, second, with Oncidium sphacelatum, bearing five fine inflorescences.

Among New Plants three classes were devoted to Orchids, and in that for one Orchid species in flower, Mr. W. A. Manda was successful with Cymbidium Mandaianum, a striking thing, which, however, we are unable to distinguish from C. I'Ansonii, figured at page 109 of our eighth volume.

For a new variety of a species Mr. W. A. Manda was first with Cattleya Mendelii var., and second with what was called C. gigas Mandaiana, but which, from some yellow veining in the throat of the lip, we should refer to a form of C. Hardyana.

In the class for a new hybrid in flower there were two or three exhibits, but we could not ascertain if any prizes had been allotted.

Messrs. Wm. Bull and Sons offered three Silver Cups, for the best Odontioda, the best hybrid Odontoglossum, and the best hybrid Cattleya, exhibited by amateurs, and these were awarded to M. Firmin Lambeau, for Odontioda Coronation, to J. Gurney Fowler, Esq., for Odontoglossum illustre egregium, with rich claret-purple flowers, and to Lt.-Col. Sir George L. Holford, for Cattleya Dirce magnifica, a very brightly-coloured form, with a purple flame at the apex of the petals.

We have mentioned two or three of the competitive classes in which no exhibitors put in an appearance, and it may be interesting to complete the list. They further include Dendrobiums, Odontoglossum species and varieties, and Odontoglossum hybrids, 200 square feet each; Cypripediums, Miltonias, and the Vanda group, 100 feet each; Masdevallias and Disas, 50 feet each; and Cochlioda hybrids, British Orchids, and Other Hardy Terrestrial Orchids, without limit. In these classes numerous Gold and Silver Medals and Cups were offered as prizes, and the absence of competition probably indicates that the groups were too big, a point which schedule makers should bear in mind in the future.

Lt.-Col. Sir George L. Holford, Westonbirt (gr. Mr. H. G. Alexander),

staged a magnificent group, which occupied the entire stage at the end of the Orchid Tent, some 1100 feet in extent, to which His Majesty The King's Cup, for the most meritorious exhibit in the Show (irrespective of class) was awarded. Such a group has never been seen before. The plants were remarkably well grown, and the arrangement was most artistic, with some noble palms behind. At the back were some fine specimens of Oncidium Marshallianum and other tall subjects, and towards the sides were many noble specimens of Dendrobiums, crowded with flowers, some good Cymbidiums, many Renanthera Imschootiana, and Phalænopsis amabilis Rimestadiana with about fifty spikes. The centre consisted largely of an extensive series of Cattleyas, Lælia purpurata, Læliocattleyas, Cypripediums, and Odontoglossums, with some charming Sophronitis hybrids, many beautiful Miltonias, Brassocattleyas, Odontiodas, some brilliant Masdevallias, and numerous dwarfer things in front. Among the Cattleyas we noted about two dozen forms of Cattleya Mossiæ, including the beautiful white varieties Wageneri and Reineckeana, C. Skinneri alba with 80 flowers, the brilliant C. S. Temple's var. with 50, a series of the chaste C. Dusseldorfii Undine and other beautiful hybrids, and among noteworthy Læliocattleyas were Gatton Glory with three spikes and twenty-three flowers, Goldcrest, Lustre, many plants of Canhamiana, Bedouin (L. purpurata × L.-c. Hyeana), Britannia (L.-c. Canhamiana × C. Warscewiczii), and many others. A good form of Brassavola Digbyana was included, surrounded by some twenty of its hybrids, which made an imposing display, one called The King having remarkably large and brilliantly-coloured flowers, while the brilliant B.-c. Veitchii Westonbirt var. and the white variety Queen Alexandra made an effective contrast. The Odontoglossums were very numerous and beautiful, the forms of O. crispum including about 300 spikes, and the Odontiodas and Miltonias were noteworthy, the latter including the choicest varieties of M. vexillaria, in well-bloomed examples. Other noteworthy things were the brilliant Sophrocatlælia Marathon var. Vesuvius, Vanda teres gigantea, beautiful examples of Dendrobium pulchellum aureum, Cymbidium Alexanderi and the rare C. Parishii Sanderæ, among a fine series of Cymbidiums. The group was remarkable in every respect, and afforded a high tribute to the cultural skill of Mr. Alexander, who, in the words of Sir George L. Holford at the Jury luncheon, had grown and staged every plant in the collection, with the help of his assistants. M. Jules Hye's Cup, originally offered for Masdevallias, and a large Gold Medal were also awarded to this superb group, with the Yorkshire East Riding Cup for Orchids and Amaryllis.

J. Gurney Fowler, Esq., Glebelands, S. Woodford (gr. Mr. J. Davis), staged a group of Orchids, in a beautiful collection of Selaginellas, every plant being isolated on a carpet of green. There were many plants of

Odontoglossum crispum, among which a fine O. c. Solum, with its remarkable purple lip (see fig. 24), stood out prominently, also O. c. moortebeekiense, O. illustre var. Europa and egregium, O. amabile, O. Aliceæ, Phalænopsis amabilis Rimestadiana, Cymbidium Woodhamsianum Fowler's var., C. Lowianum concolor, and several beautiful Odontiodas. The Hertfordshire Cup was also awarded to this group of Orchids and Selaginellas.

Leopold de Rothschild, Esq., Gunnersbury Park (gr. Mr. Reynolds),

Fig. 24. ODONTOGLOSSUM CRISPUM SOLUM (see above).

was awarded a Gold Medal for a magnificent group of Vanda teres, bearing an aggregate of over 700 spikes, and tastefully arranged with white Odontoglossum crispum, graceful foliage plants and ferns. The plants are grown in large boxes. The Isle of Wight Cup was also awarded for Orchids and fruit trees.

M. Chas. Dietrich, Brussels, was awarded a Large Silver Cup for a choice group of Cattleyas, Læliocattleyas, Odontiodas, Odontoglossums

Miltonias, &c., particularly noteworthy being Odontioda Maeterlinck, with about three dozen flowers, and a few blotched Odontoglossume.

M. H. Graire, Amiens, France, was awarded a Silver-gilt Medal for a small but very interesting collection of Odontiodas and Odontoglossums, noteworthy among them being Odontioda ignea, keighleyensis, St. Fuscien, and Seuenacca, the curious Adioda St. Fuscien, the prettily blotched Odontoglossum armainvillierense × Fascinator, O. Arlequin, O. Fletcheri and others.

M. Jules Hye de Crom, Ghent, sent a few choice things, including Miltonia Jules Hye de Crom and other Miltonias, some pretty Odontiodas, and an attractive hybrid derived from Odontonia Lairesseæ and Cochlioda Nœtzliana (see page 171).

Messrs. Charlesworth & Co., Haywards Heath, staged a remarkable group, 700 square feet in extent, with an undulating surface, and literally full of choice things from end to end. There was a fine conical bank of Odontiodas in the centre, with some Phalænopsis amabilis Rimestadiana behind, and a row of Trichopilia Backhouseana in front, while on either side were a wealth of Odontoglossums in over fifty distinct kinds, a most beautiful set of Cattleyas, Lælias, Læliocattleyas and Brassocattleyas, many beautiful Miltonias, Oncidiums, Cymbidiums, Dendrobiums, Cypripediums, Phaius, Vandas, Renanthera Imschootiana, and others, aggregating some 300 different kinds. The Odontiodas formed a beautiful series, including twenty-five distinct kinds, many of them in quantity, three of the more remarkable being Queen Mary, Chantecleer, and Coronation, while the hybrid Odontoglossums contained a wealth of beauty and numerous very choice forms. We noted also a fine plant of Neomoorea irrorata, Eulophiella Elisabethæ and a light form of Peetersiana, which has got into cultivation under the name of E. Hamelinii, the brilliant Miltonioda Ajax, a cluster of Epiphronitis Veitchii, Miltonia Roezlii alba, Satyrium coriifolium, and Uropedium Lindenii, and others too numerous to mention. Sir George Holford's Cup, originally offered for the best and most varied group of Hybrids staged by a Nurseryman, in a space not exceeding 200 square feet, and a large Gold Medal were awarded to this magnificent group.

Messrs. Sander & Sons, St. Albans & Bruges, staged another splendid group, 700 square feet in extent, to which a Large Gold Medal, a Special Silver Cup, and the Wiltshire Cup (a Rose Bowl) were awarded. Some of the taller things were arranged in bold banks, with a nearly flat arrangement in front, studded with choice specimens in a background of moss. Cattleyas and Læliocattleyas were very numerous and effective, while Phalænopsis amabilis, Renanthera Imschootiana, Odontoglossums and Miltonias were used with great effect, and the Odontiodas formed a bright

picture in front. Other interesting things were Cyrtopodium punctatum, Vanda teres, V. Denisoniana, Aërides expansum, three promising Odontiodas, Pleurothallis platyrhachis, Cypripedium Sladdenii, Catasetum tenebrosum, Miltonia festiva, Chondrorhyncha Chestertonii, Cœlogyne integerrima, Epidendrum Stamfordianum and many others.

Messrs. Peeters & fils, Brussels, were awarded a Large Silver Cup for a group of well-grown Renanthera Imschootiana, and a fine lot of hybrid Miltonias derived from M. vexillaria memoria G. D. Owen and M. Bleuana, flowering for the first time, and other interesting things.

Mr. S. Flory, Orchid Nursery, Twickenham, was awarded a small Silver Cup for a bright little group, including some good Odontoglossums, Cœlogyne veratrifolia, Dendrobium luteolum and chlorops, Disa Luna, some good Cattleyas and Miltonias, Phalænopsis amabilis, Odontioda loochristiensis, several interesting Masdevallias, &c.

M. Ch. Vuylsteke, Loochristi, Ghent, was awarded a Silver-gilt Medal for a choice group of about a dozen Odontiodas and hybrid Odontoglossums, O. eximium excelsior being almost solid claret purple, and O. Aiglon a very large white flower with a zone of very large dark blotches on the segments, while O. Favourite and O. illustre exquisitum were also noteworthy.

Mr. J. Birchenall, Alderley Edge, was awarded a Silver Medal for a small group of Cattleya Mendelii, Mossiæ and others, including a large and delicately-coloured hybrid between C. Schrœderæ and C. Mendelii, with some light purple in front of the yellow throat of the lip.

Messrs. James Cypher & Sons, Cheltenham, were awarded the Gloucestershire Cup for Orchids (see competitive groups) and Stove plants.

A large Gold Medal was awarded to Messrs. Wm. Duncan Tucker & Sons, Ltd., Cannon Street, London, for an Orchid House, fitted with all the latest improvements.

---

VUYLSTEKEARA HYEANA.—A striking hybrid derived from Odontonia Lairesseæ and Cochlioda Nœtzliana was exhibited by M. Jules Hye de Crom at the Royal International Horticultural Exhibition, and being derived from Cochlioda, Miltonia, and Odontoglossum, must be referred to the hybrid genus Vuylstekeara (see page 60 of our last volume). The plant bore a branched panicle of flowers, most like those of the Odontonia parent, but the lip smaller and more like that of the Cochlioda in shape. The flowers are blotched with salmon-red, on a paler ground, the disc of the lip yellow, and the apex white, with a transverse white line behind the apex. We are informed that the original Vuylstekeara insignis was based on an erroneous record, the parents being Miltonia vexillaria and Cochlioda Nœtzliana, hence the plant becomes a synonym of Miltonioda Harwoodii.

## STANHOPÉA GRANDIFLORA AND S. BUCEPHALUS.

AN interesting Stanhopea has just flowered in the collection of Sir Frank Crisp, Friar Park, Henley, which is apparently identical with Stanhopea grandiflora, Rchb. f. (not S. grandiflora, Lindl., which is a form of the earlier S. eburnea, Lindl.). It has a very confused history. In 1805 a plant, which was said to grow on the stem of old trees in shady woods near Cuenca, in Ecuador, was described and figured by Humboldt & Bonpland (*Pl. Æquinoct.*, i. p. 94, t. 27) under the name of Epidendrum grandiflorum, and ten years later it was transferred to Anguloa, as A. grandiflora, Kunth (*H. B. et K. Nov. Gen. et Sp.*, i.p. 343). It is a species of Stanhopea, but the inflorescence is shown as erect, and proceeding from the apex of the pseudobulb, both characters obviously erroneous—probably the artist had to draw an unfamiliar plant from fragmentary dried specimens. In 1832, Lindley referred the plant to Stanhopea insignis, Frost (*Gen. & Sp. Orch. Pl.*, p. 157), but eleven years later transferred it to S. Bucephalus, Lindl. (*Bot. Reg.*, 1843, sub. t. 44). Reichenbach, in 1856, called it Stanhopea grandiflora (*Walp. Ann.*, vi. p. 587), enumerating S. Bucephalus, Lindl., as a synonym, and giving a variety Jenischiana, based upon S. Jenischiana, Kramer (Rchb. f. in *Bot. Zeit.*, 1852, p. 934), a Panama plant. This, however, was a mixture, for a sketch of S. Bucephalus, Lindl., is preserved in Lindley's Herbarium, and is labelled "Mexico, Pavon, in hb. Lambert," and the Lambert Herbarium was afterwards purchased by the British Museum, where the original specimen still exists, labelled by Pavon himself, "Maxillaria de Mexico." It is very distinct from the Ecuador plant. Lindley afterwards described and figured as S. Bucephalus (*Bot. Reg.*, 1843, sub. t. 54; 1844. t. 24), a plant that had flowered with the Horticultural Society, stating that it was introduced by Hartweg, who found it near Quito. This, again, is different from Humboldt's plant, though it agrees with that of Pavon, which casts a doubt upon the Quito habitat assigned to it by Lindley. Curiously enough, the Mexican habitat has been omitted from all subsequent records. The late Mr. F. C. Lehmann collected at the original locality, Cuenca, a Stanhopea, which he correctly identified as S. grandiflora, Rchb. f., and also made a painting of a single flower. Lindley's Herbarium also contains a coloured drawing, with analysis, of what is clearly the same thing, though the source is not indicated, and we can only presume that it came from some garden. The unknown sender suggested it to be a new species, bnt Lindley briefly wrote on it "oculata," which is quite erroneous. Now that the plant has again appeared it seems desirable to clear up the confusion. In S. Bucephalus the hypochil of the lip is elongated and much narrowed towards the base, as in the well known S. oculata, Lindl., while in S. grandiflora this organ is pandurate-oblong, and

not narrowed at the base. The latter species is nearer to S. Wardii, Lodd., but the hypochil is relatively broader. The sepals and petals are buff yellow, with ring-like red-purple spots, and the column and lip are whitish, with purple spots, the latter having a pair of oblong eye-like spots at the base of the hypochil. It is remarkable that the identity of the plant should have remained unknown for over a century. R. A. R.

## ORCHIDS IN SEASON.

A FINE form of Cattleya Mossiæ is sent from the collection of Mrs. Fielden, Grimston Park, Tadcaster, by Mr. G. P. Bound. It is one out of a batch of over fifty plants received direct from Venezuela last September. About two dozen of the plants are said to be showing for flower.

A flower of a fine form of Miltonia vexillaria is sent from the collection of Edward Clements, Esq,, of Maidstone, also a form of the handsome Odontoglossum spectabile (crispum × Harryanum), from a spike of thirteen flowers. Both are very useful plants for an amateur's small collection.

A good form of Odontoglossum Clytie is sent from the collection of W. Waters Butler, Esq., Edgbaston. It is from a seedling of O. Edwardii × O. Pescatorei Mrs. R. G. Thwaites, and is now flowering for the first time.

A pretty hybrid from Lælia purpurata × flava is sent from the collection of V. G. Stapleton, Esq., Stamford, by Mr. C. Vickers. It is a form of Lælia Statheræ. A flower of a good form of Cattleya Mossiæ is also sent.

A distinct form of Odontoglossum triumphans, with rather short much spotted segments, is sent by Mr. A. Hutchinson, The Gardens, Ashford, Kent. The species varies considerably in shape and colour.

SIR HARRY J. VEITCH.—We learn with pleasure that His Majesty the King has conferred the honour of knighthood on Mr. Harry J. Veitch, head of the firm of Messrs. James Veitch & Sons, Chelsea, and our readers will join us in hearty congratulations on this recognition of a life-long and honourable service to horticulture. Sir Harry is the only surviving member of the Executive Committee of the International Horticultural Exhibition, held in London in May, 1866, and he has been one of the most active members of the present one, and the Chairman of the Sehedule Committee. It will be remembered that the last volume of the *Orchid Review* was dedicated to Sir Harry, and that a portrait and biography appeared in our February issue (pp. 41-43). Long may he and Lady Veitch be spared to enjoy this well-merited honour.

## AËRIDES JAPONICUM.

A FLOWER has been sent for determination of this very distinct and interesting Orchid, with a request for its history. It is a native of Japan, whence it was originally introduced in 1862 by M. J. Linden. It was described in the following year (Linden & Rchb. f. in *Hamb. Gart. Zeit.*, 1863, p. 210), the authors describing it as allied to A. radicosum, A. Rich. It is interesting to note that at the International Exhibition held in London in 1866 it obtained the first prize for a new Orchid shown for the first time in flower. Soon afterwards it was figured in the *Botanical Magazine* (t. 5798), when Sir Joseph Hooker remarked: "The presence of Aërides in so high a northern latitude in Japan is a remarkable fact in Botanical Geography, as testifying to the warmth of the southern coasts of that Archipelago, and to the extension of a Malayan type of vegetation to so high a parallel." According to Franchet & Savatier it grows on shrubs in the hilly district of Kiusiu, and in other places. It is one of the smallest species in the genus, which, perhaps, indicates the climatic influence of its northern latitude. It is also one of the few species of the Aërides group that can be successfully grown in the Odontoglossum house. Out of flower it looks more like a small Phalænopsis amabilis than an Aërides. It bears short lax racemes of seven to ten fragrant flowers, which are of a pale greenish white, sometimes barred with brown on the lateral sepals, and the lip white, with a purple keel and numerous purple blotches on the front lobe. It succeeds well in a shallow pan or basket suspended from the roof of the Cool house.

R. A. R.

## THE AMATEUR'S COLLECTION.

By C. ALWYN HARRISON, F.R.H.S.

### COOL HOUSE.

THE treatment required by the inmates of this house will be much the same as advised in my last month's article. The amount of water, however, needed by all plants in full growth and in flower, will be considerably more than has yet been required this season. Look over the entire stock of Orchids daily, and to all which are active give a good dose. Damping will be needed in the morning, at noon, and again at three in the afternoon. As the sun has increased in force, the blinds will now have to be lowered earlier and raised later than stated for last month. Keep the temperature as low as possible during the day, but maintain a moist even temperature of 65° Fahr. at night. The plants will need spraying over their leaves in the morning, and again when the house is damped and shut up in the evening.

Any hybrids of Odontoglossum which are starting into growth can be repotted if they require it, using the compost advised in previous articles.

O. grande will now have completed its long season of rest, and must be repotted as soon as the new lead is from one to two inches in length. Use pots of suitable size, crocked two-thirds of their depth, and for compost use a mixture of two parts osmunda fibre to one part each of oak leaves and sphagnum moss. Be careful to use only pure oak leaves, not oak leaf *soil*. Until a good start has been made in the new compost, afford little water to these, or to any newly-potted Orchid.

### CATTLEYA HOUSE.

In this house identical methods of culture are needed as advised for last month, and therefore they need not be repeated. Providing that a nice growing atmosphere be maintained, the temperature, by day, however, may be allowed to run up higher than stated for last month, but the thermometer should not rise above 70° Fahr. at night.

Any plants of Cattleya Mossiæ, or any hybrids which have finished flowering and require fresh soil, can now be repotted. I am not an advocate of keeping the plants in over large receptacles, by reason of retaining the old bulbs. It will be found best, when repotting a plant, to cut away the older pseudobulbs, retaining only three to support the lead.

When so treated the plants can usually be accommodated in the same sized pots as those they previously occupied. On no account use the same pot. For compost use a mixture of osmunda fibre and a few heads of moss. These Orchids must only be watered sparingly until they have made a good start. Providing that the atmosphere is moist they will take no harm. Stanhopeas are interesting plants, and although the flowers are fugacious, yet are handsome. These are now sending their flower scapes from the base of the baskets, and should receive copious supplies of water daily. Be careful not to allow the flowers to become damp, or they will easily rot.

### SUGGESTED ADDITIONS.

CATTLEYA MOSSIÆ.—For an Amateur's Intermediate house there is no more suitable Orchid than this, and, being a free-growing species of great beauty and floriferousness, should be grown in every collection. The blooms are produced in May and June, and last several weeks in perfection. There are many varieties, ranging in colour from the pure white Wageneri to the richly-coloured form Sylvia Altman, the latter a garden-raised variety. The flowers of the type are large, the sepals and petals being lilac, the lip deep violet, with an orange throat and golden veins, and beautifully frilled at the edges.

ODONTOGLOSSUM TIGRINUM.—This is a handsome hybrid, of comparatively early raising, and can consequently be procured at a moderate price. Owing to one of its parents being O. Harryanum, it has a good constitution, and being, moreover, free-flowering, renders it very suitable for inclusion in an Amateur's Cool house. The blossoms are of

good size and shape, and continue upwards of three weeks in perfection. The sepals and petals are golden yellow, blotched with chocolate, and the lip cream, with purple veins.

## MESSRS. WILLIAM BULL & SONS' ORCHID EXHIBITION.

LAST year, it will be remembered, Messrs. William Bull & Sons organised a Show of Orchids and other plants to celebrate the Jubilee of their establishment, and this year another exhibition has been held, which opened on May 13th, and produced a fine display. There were many forms of the well-known popular species, with numerous hybrids, particularly of Odontoglossum, with which the firm have been very successful. We were much struck with a batch of seedlings of O. crispum, obtained by crossing the blotched varieties Alpha and Franz Masereel, and showing a remarkable range of variation. Some were handsomely blotched, in others the colour covered the greater part of the segments except at the apex and margin, while others were ordinary white forms, one, however, having a large lip very heavily blotched with red-purple, and only an occasional spot on the other segments. We may be able to say something about some of these later. There were also four striking forms derived from the varieties General Roberts and Black Prince, varying much in shape and detail, but the blotches had retained the remarkable blackish purple colouring of the latter, while the lip showed unmistakably the influence of O. Hunnewellianum, which is clearly involved in the ancestry. Many other species and hybrids were also well represented, with numerous plants of Læliocattleya Baden-Powell, of which a large batch has been raised, some of the buff-coloured hybrids, among which a batch from C. Schrœderæ and L.-c. warnhamense showed a remarkable range of variation, forms of Cattleya Mossiæ, Mendelii and Schrœderæ, and other well-known plants of the season, interspersed with suitable foliage plants and making a very effective display.

Passing into the houses behind we were able to see the earlier stages of the work, from the tiniest seedlings upwards, house after house being filled with plants in all stages. Various Odontoglossums were in bloom, including hybrids of O. Edwardii, interesting batches from O. Pescatorei and luteopurpureum, O. armainvillierense and spectabile, O. crispum and armainvillierense, and forms of O. Fascinator, with some good Odontioda chelseiensis, Vuylstekeæ and Diana, but want of space prevents us going into further details.

The work of hybridising is being carried on with energy by Mr. Lakin, and many promising crosses were pointed out. Incidentally it may be remarked that some trouble has been experienced with the well-known fly that lays its eggs in the compost, and is so destructive to young seedlings, but it is found that it can be kept in check by occasional fumigating.

## ODONTOGLOSSUM WARNHAMENSE VAR. STEVENSII.

THE annexed figure represents a very charming form of Odontoglossum warnhamense (Pescatorei × Hallii), from the collection of W. Thompson, Esq., Walton Grange, Stone, and is reproduced from a photograph by Mr. F. W. Rolfe, the flower being one of the series described at page 141 of our last issue. It is represented natural size. The hybrid shows the characters of its parents very clearly, the shape and markings of the sepals and petals

Fig. 25. ODONTOGLOSSUM WARNHAMENSE VAR. STEVENSII.

recalling O. Hallii very strongly, while the clear white lip and handsomely spotted petals give an air of distinction to the flower. The very spiny crest of the lip most resembles that of O. Hallii, but the column wings are broad and much less toothed. The ground colour of the flower is white, and the markings chocolate brown. It is dedicated to Mr. W. Stevens, who has so long had the care of this fine collection. O. warnhamense was originally raised in the collection of C. J. Lucas, Esq., Warnham Court, Horsham, and flowered for the first time in 1905, when it was described at page 157 of our thirteenth volume. O. Phædra is a later name for the same hybrid.

## CALENDAR OF OPERATIONS FOR JUNE.

By J. T. BARKER, The West Hill, Hessle, E. Yorks.

THE general conditions as regards temperatures, watering, ventilation, and atmospheric moisture laid down last month are also suitable for the present one. It should always be borne in mind that the hotter and drier the outside conditions the more humidity should be maintained within the houses.

CYPRIPEDIUM SEEDLINGS, as they get large enough to handle, should be pricked off into three to four-inch pots, ten plants in the smaller up to twenty in the larger size being sufficient. The sooner all seedlings have a separate existence the better, as they not only make more progress, but they can be treated individually, which is impossible whilst growing upon the surface of the compost in which another plant is growing. As a compost for these very small plants I find nothing more suitable than peat fibre and live sphagnum moss, in equal portions, the compost being pressed moderately firmly into well-drained pots, the surface clipped off nice and level, and the plants placed in the compost with a small pointed stick. After the seedlings have been pricked off they must be watered with great caution, and water must be applied through a very fine rose or a sprayer. They must be protected from the direct rays of the sun; otherwise they should be grown in a fairly light position, and where there is no danger of their becoming drawn.

COOL DENDROBIUMS.—Besides the different sections of these useful plants which we have previously mentioned there is yet another, namely, those which succeed in a Cool house. Such species as D. Kingianum and var. album, D. speciosum and var. Hillii, D. teretifolium, D. glomeratum, D. japonicum, D. Victoria-Regina, and several others thrive under the conditions which prevail in this house. Any of these plants that are now starting to grow may have fresh rooting material afforded them if they require it. The compost recommended for Dendrobiums in previous numbers will answer their requirements. They may be grown in shallow pans and suspended in a light position. D. teretifolium is best accommodated on a teak wood raft, with a little of the compost packed between the bars and under the base of the plant, the raft being suspended in such a manner that the foliage hangs down naturally. D. Victoria-Regina does better in a more shady position, and may be grown in shallow teak wood baskets, in a compost in which living sphagnum moss preponderates. These cool Dendrobiums require, when growing freely, a liberal supply of water at the roots, but must be kept on the dry side after their growths are completed. Many of the stronger growers may be kept quite dry; in fact if they are not rested sufficiently they produce few flowers.

DENDROBIUMS.—The young growths of the deciduous and semi-deciduous Dendrobiums, as they develop, should be looped up to the suspenders, as if they are allowed to hang over the sides of the receptacles in which they are growing they are easily broken or damaged, and by these means air and light is enabled to circulate more freely amongst them. When the roots have penetrated the compost, and the growth is vigorous, the water supply must be increased.

CATTLEYAS.—Strong plants of C. Warscewiczii (gigas), C. Dowiana, and C. D. aurea, whether showing flower sheaths in the young growths or not, should be grown in as light a position as possible, being elevated close to the roof glass of the house, giving them plenty of water at the roots whenever they become dry. The potting of these plants is best deferred until they have flowered, and the new pseudobulbs are fully developed and are seen to be pushing new roots from their base. Take every opportunity of repotting any plants that are in need of it, whenever they are seen to be in the proper condition, namely, when making new roots from their base. Many a sickly plant is brought into a robust condition by closely observing its manner of growth, and carefully giving new compost just at the right time. It is quite safe to take any of these plants in hand whenever they are seen to be making new roots.

LÆLIAS.—Such well-known Orchids as L. autumnalis, and var. alba, L. albida, L. Gouldiana, and others that have been resting and are now starting into growth, should be suspended at once in a light position in the Mexican or Intermediate house, and afforded a plentiful supply of water while the growths are developing. Any necessary repotting may be done at this season, using the same compost as for L. anceps. They will succeed in shallow pans or teak wood baskets.

THUNIAS.—As the flowers of the different species commence to open, it is advisable to remove the plants to a cooler structure, and it will generally be found that those which open in the cooler atmosphere last longer than if kept in the Warm house.

ONCIDIUMS.—Any plants of O. ampliatum and its variety majus that have passed out of flower should be induced to take a rest by being placed in a cool Intermediate house, and only sufficient water should be given to keep the leaves fresh and the bulbs plump. As soon as growth recommences the plants should again be returned to the warmer atmosphere of the East Indian house. Any O. leucochilum that have been flowering in the Intermediate house should, immediately their spikes are over, be placed in the Cool house to rest. The pseudobulbs of this and several other Oncidiums often shrivel to a considerable extent when carrying strong branching flower spikes, but with care and attention they soon return to their normal condition, when growth recommences. Keep the plants cool

while at rest, and do not afford heavy waterings until the roots are seen to be moving.

BRAZILIAN ONCIDIUMS.—There are several other Oncidiums, such as O. Marshallianum, crispum, concolor, prætextum, in fact all the Brazilian species, are liable to become exhausted by flowering. Therefore the spikes should be removed from delicate plants as soon as they appear, and on strong plants it is a wise precaution to remove the spikes when the flowers are fully developed and have been open a reasonable time. With a season's rest, other conditions being favourable, they will regain their strength. In the cultivation of Oncidiums, perhaps, present-day Orchid cultivators have made less progress than with any other section that comes under their care.

SOPHRONITIS GRANDIFLORA, having passed out of flower, will now be growing freely at the warm end of the Cool house, and may have new material given to the roots should it be requisite, using the Cattleya compost. They are best grown in shallow pans suspended from the roof.

CALANTHES.—The deciduous Calanthes that have become well rooted may have more water at the roots, but those that have not made so much progress must still have it applied to them with discrimination, as an excess at this season ends in disaster. Care should be taken that the water given these plants is always of the same temperature as the atmosphere of the house in which they are growing.

VANDA TERES.—This charming Orchid is now in bloom, and as soon as the flowering period is over growth begins, when the work of repotting may receive attention. In growing this plant it is advisable to fasten the stems to teak, or some other hard wood stakes, to which the clinging roots may attach themselves. The stakes must be fixed firmly in the pots, which latter must be two-thirds filled with crocks for drainage, the remainder being clean sphagnum moss, pressed firmly, as compost. The stakes should be of sufficient length to allow for eighteen inches or so of growth. They can either be placed singly in pots or otherwise. When several are placed in one pot to make specimens sufficient space should be allowed between them to allow of a free circulation of air and sunlight. Where sufficient plants are grown it is a good practice to plunge the pots in a bed of live sphagnum moss, so they appear to be planted out. This Orchid will stand as much sun heat, light, and moisture, both at the root and in the atmosphere, as any plant; therefore the position chosen for the plants should be one where they are fully exposed to the sun's rays, and be close up to the glass in a house that can be closed early in the afternoon, sufficiently to raise the temperature to 90° or 100° It is quite an aërial-rooting species, and very seldom are many live roots found in the pots, whilst those that are clinging to the stakes absolutely revel in the strong heat and sunshine. On bright days the plants should be frequently

syringed overhead to keep the foliage clean and healthy. When growth is completed, the temperature and the atmospheric moisture should be gradually reduced, and only sufficient water given them from time to time to prevent the leaves from suffering. During winter the plants are best rested in a Cattleya house temperature.

VANDA HOOKERIANA, and its hybrid Miss Joaquim, with plants of similar nature, as Renanthera coccinea, will thrive under similar treatment.

GENERAL REMARKS.—This month, like last, will be a busy one. Push on with the potting of all plants as they become ready, as time lost at this season can never be regained. The whole secret of plant cultivation depends on doing the right thing at the right period. The cleaning of plants must have attention at all times, as it not only improves their appearance but also their constitutions.

## SOCIETIES.

### ROYAL HORTICULTURAL.

A MEETING was held at the Royal Horticultural Hall, Vincent Square, Westminster, on April 16th, when there was a fine display of Orchids, including eight medal groups, other awards being one First-class Certificate, two Awards of Merit, and one Cultural Commendation.

Orchid Committee present: J. Gurney Fowler, Esq. (in the Chair), and Messrs. J. O'Brien (hon. sec.), Harry J. Veitch, Gurney Wilson, F. Sander, H. G. Alexander, H. J. Chapman, T. Armstrong, J. Charlesworth, W. H. Hatcher, J. E. Shill, W. P. Bound, A. Dye, W. H. White, F. Peeters, J. Wilson Potter, J. S. Moss, F. J. Hanbury, J. Cypher, C. J. Lucas, Stuart Low, R. G. Thwaites, and R. A. Rolfe.

Mrs. Norman Cookson, Oakwood, Wylam (gr. Mr. H. J. Chapman), staged a beautiful group, including examples of Odontioda Cooksoniæ, Odontoglossum crispum Leonard Perfect, a few good blotched seedlings of O. crispum, raised in the collection, O. splendidissimum, O. Pescatorei, forms of O. armainvillierense, O. Titania, O. percultum, and numerous other good things.

J. T. Bennett-Poë, Esq., Holmewood, Cheshunt (gr. Mr. Downes), sent a fine spike of the richly-coloured Cymbidium Lowianum Holmewood var.

Sir Jeremiah Colman, Bart., Gatton Park (gr. Mr. J. Collier), showed a good example of Odontioda gattonensis, bearing a spike of fourteen scarlet flowers with a few yellow markings.

E. H. Davidson, Esq., Borlases, Twyford (gr. Mr. Cooper), showed Cattleya Schrœderæ alba Borlases var., a beautiful albino.

J. Gurney Fowler Esq., S. Woodford (gr. Mr. J. Davis), sent two fine forms of Cattleya Schrœderæ.

F. D. Godman, Esq., South Lodge, Horsham, sent three pots of Pleione

yunnanensis, with ten beautiful flowers, two forms of Odontoglossum Godmanii and Læliocattleya Endymion (luminosa × callistoglossa).

M. Firmin Lambeau, Brussels, sent Miltonia Hyeana Vogelsang, a very large white variety.

H. T. Pitt, Esq., Rosslyn, Stamford Hill (gr. Mr. Thurgood), sent Læliocattleya Rosslyn (L. Boothiana × C. Lawrenceana), Cypripedium Curtophyllum (Curtisii × glaucophyllum), two good Odontoglossums, &c.

Baron Bruno Schröder, The Dell (gr. Mr. J. E. Shill), sent a fine Cattleya Schrœderæ Empress, bearing three spikes, the best with five flowers, and the colour pink, with an orange-coloured throat to the lip.

A. Warren, Esq., The Cedars, Epsom (gr. Mr. A. Bridges), exhibited a pretty white Aërides, apparently A. pallidum (see *O.R.*, xix. p. 231).

Francis Wellesley, Esq., Westfield, Woking (gr. Mr. Hopkins), sent Læliocattleya Mrs. Henriques, a richly-coloured hybrid, and others.

Messrs. J. Cypher & Sons, Cheltenham, staged a fine group of Cattleyas, Lælia purpurata, Odontoglossums, Masdevallias, Miltonia flavescens, Oncidium concolor, Restrepia elegans, &c. Cypripedium Rothschildianum × Charlesworthii and Læliocattleya Hyeana × Brassocattleya langleyensis were two interesting novelties (Silver Flora Medal).

Messrs. Hassall & Co., Southgate, staged a showy group of Cattleyas, Renanthera Imschootiana, Trichopilia Backhouseana, Odontioda Zephyr, Cymbidiums, Epidendrum Stamfordianum, Læliocattleya Olivia, L.-c. Ballii, &c. (Silver Flora Medal).

Messrs. Sander & Sons, St. Albans, staged a fine group, including many showy Dendrobiums, a series of Cattleya Schrœderæ, C. guatemalensis, Trichopilia Hennisii, Odontoglossums, Brassocattleya Cordelia, Læliocattleya rigida (C. Lawrenceana × L. superbiens), L.-c. Cora var. ignea, Megaclinium maximum, &c. (Silver Flora Medal).

Messrs. Charlesworth & Co., Haywards Heath, sent a choice group, including Brassocatlælia Joan (C. Octavia × B.-l. Gratrixiæ), a pretty yellow flower with some rich veining in front of the fringed lip, Sophrocatlælia Marathon, and a number of beautiful Odontoglossums, Læliocattleyas, and Odontiodas (Silver Banksian Medal).

The Liverpool Horticultural Co., Gateacre, staged a fine group of Læliocattleya Ballii, with Cattleya intermedia alba, Lawrenceana, Thayeriana, and Dusseldorfii (Silver Banksian Medal).

Messrs. Stuart Low & Co., Enfield, staged a fine group of Dendrobiums, Oncidium sarcodes and concolor, Cymbidium Devonianum, Odontoglossum Edwardii and Groganiæ, Schomburgkia undulata, and other interesting things (Silver Banksian Medal).

Messrs. J. & A. A. McBean, Cooksbridge, staged a nice group of Cattleya Mendelii, Schrœderæ, and Mossiæ, Odontoglossum tripudians ×

Harryanum, O. Solon, and a handsomely blotched O. armainvillierense, with Odontioda Charlesworthii and Lambeauiana (Silver Banksian Medal).

M. Florent Claes, Brussels, sent Odontoglossum Pescatorei Mouche d'Or, with orange yellow crest to the lip, and some good Cattleya Schrœderæ and Mendelii.

Messrs. A. A. Peeters & fils, Brussels, showed Miltonia vexillaria Jurval, a pretty pink form, with brownish yellow blotch on the lip.

Mr. C. F. Waters, Deanlands Nursery, Balcombe, sent a few good forms of Cattleya Mendelii.

### FIRST-CLASS CERTIFICATE.

ODONTOGLOSSUM CRISPUM SAGA.—A beautiful variety, bearing a compact spike of seventeen flowers, with very broad white segments, about two-thirds covered with red-purple blotches. Exhibited by J. Gurney Fowler, Esq.

### AWARDS OF MERIT.

CATTLEYA MENDELII THULE.—A pretty white form with a slight blush tint on the lip. Exhibited by J. Gurney Fowler, Esq.

LÆLIOCATTLEYA BERTRAM (Hopkinsii × Cappei).—A rich golden yellow hybrid, with some reddish veining on the petals, and the lip deep ruby red. Exhibited by Francis Wellesley, Esq.

### CULTURAL COMMENDATION.

ODONTOGLOSSUM HYEANUM (luteopurpureum × Harryanum).—To Mr. W. J. Stables, gardener to de Barri Crawshay, Esq., for a strong plant with a spike over six feet high, bearing twenty-one flowers and buds.

---

At the meeting held on April 30th the Orchid exhibits were less numerous, but included seven medal groups, the only other awards being two First-class Certificates.

Orchid Committee present: J. Gurney Fowler, Esq. (in the Chair), and Messrs. J. O'Brien (hon. sec.), Harry J. Veitch, de Barri Crawshay, Gurney Wilson, W. Thompson, Stuart Low, R. G. Thwaites, J. S. Moss, F. J. Hanbury, F. M. Ogilvie, T. Armstrong, A. A. McBean, W. Cobb, J. Cypher, J. Charlesworth, W. H. Hatcher, J. Wilson Potter, W. P. Bound, J. E. Shill, H. G. Alexander, A. Dye, W. H. White, W. Bolton, J. S. Moss, and R. Brooman White.

Sir Jeremiah Colman, Bart., Gatton Park (gr. Mr. J. Collier), sent a plant of the handsome Sarcopodium Lyonsii.

J. Gurney Fowler, Esq., Glebelands, S. Woodford (gr. Mr. J. Davis), sent Cymbidium tigrinum, and Odontioda Royal Gem (Odontioda Vuylstekeæ × Odontoglossum armainvillierense), bearing pretty white and lilac flowers spotted with red.

S. Gratrix, Esq., Whalley Range, Manchester (gr. Mr. Brown), sent Odontoglossum crispum Mary Gratrix, a beautiful white form.

Sir Trevor Lawrence, Bart., K.C.V.O., Burford (gr. Mr. White), sent Brassocatlælia Triune (L.-c. Hyeana × B.-c. langleyensis), a fine pale lilac flower with some purple markings on the lip.

W. R. Lee, Esq., Plumpton Hall, Heywood (gr. Mr. Branch), sent Odontioda Leeana (C. Nœtzliana × O. spectabile), a fine deep red form.

F. M. Ogilvie, Esq., Oxford (gr. Mr. Balmforth), sent Odontoglossum Lambeauianum Valerie, a good dark form, and Cypripedium Mary Beatrice.

F. P. Walker, Esq., Putney (gr. Mr. Macgregor), showed Odontoglossum Royal Purple, having deep violet-purple flowers with a white front to the lip.

Francis Wellesley, Esq., Westfield, Woking (gr. Mr. Hopkins), sent Cattleya Mendelii Chief Justice, C. Mossiæ Lady Northcliffe, and the richly-coloured Læliocattleya Henriquesiana.

S. Heilbut, Esq., Holyport, Maidenhead, showed home-grown pods of Vanilla planifolia.

Mr. S. Flory, Orchid Nursery, Twickenham, staged a very fine group, including some excellent forms of Odontoglossum crispum, O. Pescatorei, eximium and percultum, several Odontioda loochristiensis (C. Nœtzliana × O. gloriosum), Charlesworthii and Bradshawiæ, the rare Trichopilia oicophylax, T. Backhouseana, Cattleya Schrœderæ and Mendelii, Cymbidium eburneum, a bright yellow Mormodes, &c. (Silver Flora Medal).

Messrs. Charlesworth & Co., Haywards Heath, staged a choice group, including Læliocattleya Pelias (L.-c. Fascinator × C. Warneri alba), blush white with purple markings on the lip, and some fine L.-c. Balliæ, Wellsiana and Dominiana, Gongora atropurpurea and Tracyana, several finely-coloured Odontoglossum Aireworth, &c. (Silver Banksian Medal).

Messrs. J. Cypher & Sons, Cheltenham, staged a good group of Odontoglossums and Odontiodas, several Brassocatlælia Triune (B.-c. langleyensis × L.-c. Hyeana), Læliocattleya Ballii and Fascinator, Brassocattleya Maroniæ, and others (Silver Banksian Medal).

Messrs. Stuart Low & Co., Enfield, staged a bright group of Cattleyas, Renanthera Imschootiana, Dendrobium crystallinum album, Jamesianum, Donnesiæ, and others, Cymbidium Devonianum and Schrœderi, Oncidium concolor and ampliatum, &c. (Silver Banksian Medal).

Messrs. J. & A. A. McBean, Cooksbridge, staged a bright group of Cattleya Mossiæ, Schrœderæ and Skinneri, Lycaste gigantea, Læliocattleya highburiensis, Cymbidium Devonianum, Odontoglossums, Odontiodas, &c. (Silver Banksian Medal).

Messrs. Sander & Sons, St. Albans, staged a good group of Cattleyas, Trichopilia Hennisii, Oncidium pulchellum and phymatochilum, Odontoglossum Fowlerianum, Brassocattleya vestalis, Bifrenaria Harrisoniæ pubigera, Rodriguezia venusta, Polystachya bracteosa, Dendrobium albosanguineum, cariniferum, lituiflorum, &c. (Silver Banksian Medal).

Messrs. Hassall & Co., Southgate, staged a select group, including good forms of Odontoglossum Jasper, eximium, and others, Miltonia Roezlii, M. vexillaria Cobbiana, the fine Trichopilia Backhouseana, Dendrobium Bronckartii, &c. (Silver Banksian Medal).

FIRST-CLASS CERTIFICATES.

CATTLEYA SCHRŒDERÆ GLEBELANDS VAR.—A very pretty blush pink form, with a remarkably large orange-coloured disc to the lip. Exhibited by J. Gurney Fowler, Esq.

ODONTOGLOSSUM UROSKINNERI BURFORD VAR.—A remarkably large and richly-coloured form, having the lip nearly two inches across. Exhibited by Sir Trevor Lawrence, Bart.

---

ON May 14th the proximity of the great International Show doubtless affected the exhibits, but six medal groups of Orchids were shown, and three other awards were made by the Orchid Committee, who were present as follows: J. Gurney Fowler, Esq. (in the Chair), Messrs. J. O'Brien (hon. sec.), Harry J. Veitch, Gurney Wilson, R. Brooman White, W. Bolton, de Barri Crawshay, W. H. White, A. Dye, H. G. Alexander, J. E. Shill, W. H. Hatcher, J. Cypher, W. Cobb, A. A. McBean, T. Armstrong, R. G. Thwaites, F. J. Hanbury, C. J. Lucas, J. Wilson Potter, C. Cookson, and Sir F. W. Moore.

H. T. Pitt, Esq., Rosslyn, Stamford Hill (gr. Mr. Thurgood), received a Silver Flora Medal for a choice group, including some good plants of Masdevallia muscosa, several fine varieties of Miltonia vexillaria, Chondrorhyncha Chestertonii, Odontioda Bradshawiæ, and Charlesworthii, the latter raised in the collection, Cœlogyne pandurata and Dayana, Anguloa Clowesii, Dendrobium Dearei, Brassia maculata and Lawrenceana, with a few good Oncidiums, Cypripediums, and Odontoglossums, the latter including some good home-raised O. Edwardii crosses.

De Barri Crawshay, Esq., Rosefield, Sevenoaks (gr. Mr. Stables), was awarded a Silver Banksian Medal for a choice group of seedlings raised in the collection, including Odontoglossum Honolulu (Hunnewellianum × harvengtense), yellow, regularly spotted with brown, O. Volutella (elegans × Vuylstekei), white with dark brown blotches, and O. Valeria (Edwardii × Vuylstekei), with chocolate purple flowers, while a bright little cluster of Odontiodas contained an interesting novelty in O. Carmen (C. Nœtzliana × O. nebulosum), most like the latter parent in shape, and having pale red sepals and petals, and a whitish lip tinged with salmon colour.

R. G. Thwaites, Esq., Chessington, Streatham (gr. Mr. Black), also received a Silver Banksian Medal for a group of good Odontiodas, Odontoglossum Clytie, crispum, and others, Diacattleya Sanderæ, Læliocattleya Fascinator, and some good Brassocattleyas.

Mrs. Norman Cookson, Oakwood, Wylam (gr. Mr. H. J. Chapman), sent Odontoglossum Solon var. Roland, and a finely blotched O. crispum.

Mr. S. Flory, Orchid Nursery, Twickenham, staged a fine group, including Cattleya Mossiæ and Mendelii, C. intermedia Parthenia, C. Skinneri alba, C. dolosa, some good Læliocattleyas, Lælia purpurata, and Odontoglossum crispum, Restrepia guttulata and trichoglossa, Masdevallias, &c. (Silver Flora Medal).

Messrs. Hassall & Co., Southgate, staged a good group of Odontoglossums, Odontioda Charlesworthii and chelseiensis, Cypripedium niveum, and Cattleya Mossiæ, with plants of the charming little Oncidium pulchellum in front (Silver Banksian Medal).

Messrs. J. & A. A. McBean, Cooksbridge, staged a choice group of Odontoglossum crispum, Odontioda Charlesworthii, and some good Cattleya Mossiæ and Mendelii (Silver Banksian Medal).

### FIRST-CLASS CERTIFICATE.

CYPRIPEDIUM WOODHAMSIANUM FOWLER'S VAR. (Veitchii × Lowianum).—A very fine form, having apricot-yellow flowers with faint bronzy lines, and the front of the lip chestnut-red with some spots on the side lobes. Exhibited by J. Gurney Fowler, Esq., S. Woodford (gr. Mr. J. Davis).

### AWARD OF MERIT.

LÆLIOCATTLEYA APOLLO (C. Schrœderæ × L.-c. warnhamiensis).—A very pretty flower, having pale nankeen yellow sepals and petals, and the lip pink in front, with some rosy veining, and the disc orange-coloured. Exhibited by C. J. Lucas, Esq., Warnham Court, Horsham (gr. Mr. Duncan).

### CULTURAL COMMENDATION.

DENDROBIUM LODDIGESII.—To Mr. W. H. White, Orchid grower to Sir Trevor Lawrence, Bart., Burford, for a fine plant of this pretty little Chinese species, which is the D. pulchellum of Loddiges, but not the original one of Roxburgh.

---

## MANCHESTER AND NORTH OF ENGLAND ORCHID.

At the meeting held on Thursday, April 4th, the members of Committee present were :—Rev. J. Crombleholme (in the Chair), Messrs. R. Ashworth, C. Parker, H. Thorp, Z. A. Ward, J. Evans, W. Holmes, A. J. Keeling, D. McLeod, and H. Arthur (Secretary). Owing to the restricted railway service, the exhibits were not so numerous as usual.

Z. A. Ward, Esq., Northenden (gr. Mr. Weatherby), staged a nice group, to which a Silver-gilt Medal was awarded. It contained some very fine Odontoglossums Vuylstekei, Ossulstonii, Wilckeanum (in variety), Andersonianum, triumphans, Odontiodas, Cymbidium Lowianum and var. concolor, Cattleya highburiensis, and Dendrobium chrysotoxum.

Col. J. Rutherford, M.P., Blackburn (gr. Mr. Lupton), was awarded a

Silver Medal for a nice group, including Cymbidium Parishii Sanderæ Rutherford's var., two forms of Gottianum, eburneum, Cattleyas of the Trianæ and Mendelii section, Læliocattleya highburiensis, Odontoglossum Queen Alexandra, Lambeauianum, Rossianæ, and several spotted seedlings.

Rev. J. Crombleholme, Clayton-le-Moors (gr. Mr. Marshall), was awarded a Silver Medal for a group, a nice batch of Cypripedium bellatulum being a feature; with C. exul, villexul, Olivia Ball's var., gigas magnificum, Minos Youngii, and a few plants of Odontoglossum crispum.

J. McCartney, Esq., Bolton (gr. Mr. Holmes), was also awarded a Silver Medal for a nice group, including Cattleya Empress Frederick var. King Edward, C. Schrœderæ alba, and others, Læliocattleya Powellii, Dendrobium Wardianum and infundibulum, with a few Cypripediums.

W. R. Lee, Esq., Heywood, sent Cattleya Schrœderæ var. Arduth, and others.

J. J. Holden, Esq., Southport (gr. Mr. Johnson), sent Cattleya Suzanne Hye de Crom, Brassocattleya Bradshawiæ, and Læliocattleya Archie Niell.

A. Warburton, Esq., Haslingden, staged Odontoglossum ardentissimum album, and O. Wilckeanum Vuylstekeanum.

S. Gratrix, Esq., Whalley Range, sent Læliocattleya Dominiana West Point var.

Mr. J. Birchenall, Alderley Edge, sent Lycaste costata var. sulphurea, Bifrenaria Harrisoniæ violacea, and two forms of Odontoglossum Adrianæ.

Mr. J. Evans, Congleton, sent a very fine Odontoglossum.

### FIRST-CLASS CERTIFICATES.

Cattleya Osiris (Enid superba × Octave Doin), a magnificent flower, like a giant Hardyana, of good form and colour, and Odontoglossum ardentissimum var. plumptonense, a very round flower, of almost solid colour, with white margin round the segments; from W. R. Lee, Esq.

Odontoglossum Prince of Wales (Wilckeanum × Harryanum).—A magnificent flower of rich solid colour, four inches across, with a broad flat lip; from Z. A. Ward, Esq.

Cymbidium Pauwelsii (Lowianum concolor × insigne), having creamy white flowers with colour in the lip; from Col. J. Rutherford, M.P.

### AWARDS OF MERIT.

Cattleya Trianæ var. Iris, and C. Schrœderæ var. Œnone; from W. R. Lee, Esq.

Brassocattleya Maggie (C. Warneri alba × B. Digbyana) and C. Schrœderæ var. Luminos; from J. J. Holden, Esq.

Odontoglossum Telemachus (parentage unknown); from Z. A. Ward, Esq.

Odontoglossum crispum var. Madouxianum; from A. Warburton, Esq.

Cattleya Trianæ var. Ada le Doux; from R. le Doux, Esq.

At the meeting held on April 18th, the members of Committee present were:—Messrs. Z. A. Ward (in the Chair), R. Ashworth, J. Bamber, C. Parker, H. Thorp, A. Warburton, J. C. Cowan, J. Cypher, J. Evans, W. Holmes, A. J. Keeling, D. McLeod, F. K. Sander, and H. Arthur (Secretary).

Silver-gilt Medals were awarded to Z. A. Ward, Esq., Northenden (gr. Mr. Weatherby), and to R. Ashworth, Esq., Newchurch (gr. Mr. Gilden), for very fine miscellaneous groups, in both of which Odontoglossums formed a prominent feature.

Silver Medals were given to Col. J. Rutherford, Blackburn (gr. Mr. Lupton); J. McCartney, Esq., Bolton (gr. Mr. Holmes); Messrs. J. Cypher & Sons, Cheltenham; and the Liverpool Orchid Co., for excellent groups.

A Bronze Medal was awarded to A. Warburton, Esq., Haslingden (gr. Mr. Dalgleish), for a small group of choice Odontoglossums and Odontiodas.

Other interesting exhibits came from O. O. Wrigley, Esq., Bridge Hall, Bury (gr. Mr. Rogers); Messrs. A. J. Keeling & Sons, Bradford; Messrs Stuart Low & Co., Enfield; Messrs. Hassall & Co., Southgate; Mr. W. Shackleton, Bradford; and Mr. J. Evans, Congleton.

### FIRST-CLASS CERTIFICATES.

Odontoglossum crispum xanthotes Lady of the Snow, one of the best albinos yet seen in the North of England; a well-grown plant, carrying a fine spike of over a dozen good flowers; from R. Ashworth, Esq.

Odontoglossum eximium var. xanthotes, another beautiful albino, with very round flowers, having pale orange spots on the sepals, petals, and lip; from A. Warburton, Esq.

### AWARDS OF MERIT.

Odontioda Hyeana var Willie, Odontoglossum crispum var. George, and O. The Moor (luteo-purpureum × Harryanum), a brilliantly-coloured flower; from Z. A. Ward, Esq.

Odontoglossum crispum Leeanum Ashlands var., and Odontioda Diana Ashworth's var. (O. amabile × C. Nœtzliana); from R. Ashworth, Esq.

Odontoglossum eximium, The Premier; from J. J. Holden, Esq.

Sophrocatlælia Sandhaghe (C. Enid × S.-l. heatonensis), and Brasso-cattleya Cliftonii Leemann's var. (B.-c. Veitchii × C. Trianæ Uplands var.); from J. Leemann, Esq.

---

At the meeting held on May 2nd the members of Committee present were: Rev. J. Crombleholme (in the Chair), Messrs. C. Parker, H. Thorp, A. Warburton, Z. A. Ward, J. Cypher, J. Evans, W. Holmes, A. J. Keeling, D. McLeod, and H. Arthur (Secretary).

A Silver-gilt Medal was awarded to Z. A. Ward, Esq., Northenden (gr. Mr. Weatherby), for a fine group of Odontoglossums andOdontiodas.

Silver Medals were awarded to Col. J. Rutherford, M.P., Blackburn (gr. Mr. Lupton); J. McCartney, Esq., Bolton (gr. Mr. Holmes); and H. Thorp, Esq., Rhodes, for good miscellaneous groups.

Other interesting groups and exhibits came from O. O. Wrigley, Esq., Bridge Hall, Bury (gr. Mr. Rogers); J. J. Holden, Esq., Southport (gr. Mr. Johnson); A. Warburton, Esq., Haslingden (gr. Mr. Dalgleish); Rev. J. Crombleholme, Clayton-le-Moors (gr. Mr. Marshall); Messrs. J. Cypher & Sons, Cheltenham; Messrs. Charlesworth & Co., Haywards Heath; Messrs. Keeling & Sons, Bradford; Mr. W. Shackleton. Great Horton, Bradford; and Mr. D. McLeod, Chorlton-cum-Hardy.

### FIRST-CLASS CERTIFICATES.

Odontoglossum crispum Perfect Gem, a full, round, gigantic flower, with

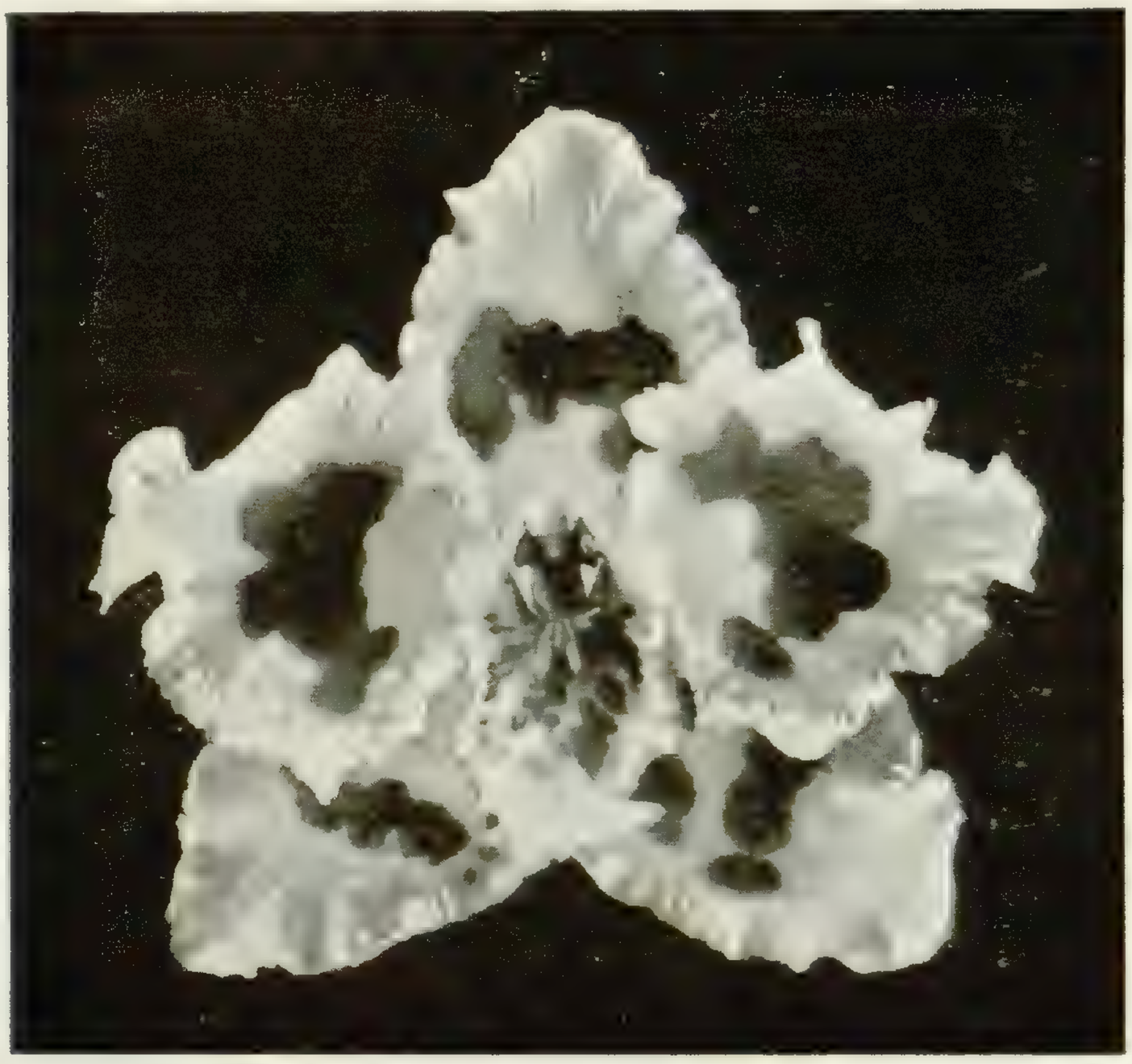

Fig. 26. ODONTOGLOSSUM CRISPUM PERFECT GEM.

a nice even blotch on the sepals and petals (a Silver Medal was also awarded); from A. Warburton, Esq. (See fig. 26).

Brassocattleya Maggie (C. Warneri alba × B. Digbyana); a very fine form, almost white; from J. J. Holden, Esq.

### AWARDS OF MERIT.

Odontoglossum Hilda (amabile × Rolfeæ), and O. amabile Wardii; from Z. A. Ward, Esq.

Odontoglossum eximium Rutherfordianum; from Col. J. Rutherford, M.P.

Cypripedium Greyi claytoniense (Godefroyæ × niveum); from the Rev. J. Crombleholme.

## AN ORCHID CONFERENCE.

WE have already announced that a special Orchid Show will be held by the Royal Horticultural Society on November 5th and 6th next, in the Society's Hall, Vincent Square, Westminster, to demonstrate the growing importance of Orchids as autumn-flowering plants. Conjointly with the Show a Conference will be held in the Lecture Room on the second day, from 11 to 1 and from 2 to 4, and those interested are invited to prepare scientific or practical papers on the particular branches of the subject in which they happen to be most interested. As it will be impossible in the few hours of the Conference to hear all the papers, it will be advantageous to select those only which lend themselves most readily to discussion. The others, particularly those of a more or less technical nature, should be taken "as read," but all papers will be published in due course in the Society's Journal. Papers and discussions are invited on the following or other suitable subjects:—

The early history of fertilisation and hybridisation, dealing more especially with any points not generally known or published.

The germination, and early stages of growth, of the seed.

Method of sowing; possible germination without the presence of fungus.

Points of good cultivation. Quick methods of growing, time being an important factor.

The selection of plants possessing qualities which, though not very decorative in themselves, might be utilised in breeding for producing favourable results in the next generation.

The ideal flower. What are its essential points?

What are the limits of hybridisation and cross fertilisation?

The production of albino varieties and others of a definite colour, as, for instance, a yellow Cattleya or a blue spring-flowering Odontoglossum.

In what direction should Orchid growers look for improvement? Have we reached a suitable limit in size, in colour, or in the amount of flower an individual plant will produce?

Is the amount of heat necessary for some hybrids prejudicial to their general cultivation? Is it, for example, possible or worth while trying to create a cooler-growing section of Læliocattleya, &c., by the use of parents of cool-growing species, such as Lælia Jongheana and Lælia pumila?

The wonderful results obtained from the use of certain species in hybridisation.

The cultivation of difficult species might with advantage be discussed, as, for example, Vanda cœrulea and V. Sanderiana.

It is not proposed to touch on nomenclature and the scientific classification of species.

## ORCHIDS AT THE ROYAL SOCIETY'S CONVERSAZIONE.

AT the Conversazione of the Royal Society, held at Burlington House, Piccadilly, on May 8th last, there was an interesting exhibit of hybrid Odontoglossums and allies, with their parents, by Mr. R. Allen Rolfe, A.L.S. The flowers were shown in two shallow glass-covered cases, and arranged in such a way that each hybrid was placed between its two parents, so as to admit of ready comparison, and bring out the intermediate characters. The series comprised the following :—

Odontioda Charlesworthii (Cochlioda Nœtzliana × Odontoglossum Harryanum).

Odontonia Lairesseæ (Odontoglossum crispum × Miltonia Warscewiczii).

Odontoglossum Charlesworthii (triumphans × Harryanum).

Odontoglossum excellens (nobile × triumphans).

Odontoglossum Rolfeæ (nobile × Harryanum).

Odontoglossum Thompsonianum (Edwardii × crispum).

Odontoglossum Ossulstonii × nobile (with both parents).

The latter is a secondary hybrid, of which three forms were exhibited to show the variation of secondary hybrids from the same capsule.

The flowers exhibited were from the collection of W. Thompson, Esq., Stone; R. G. Thwaites, Esq., Streatham; and Messrs. Charlesworth & Co., Haywards Heath, who had kindly sent them for the purpose of the exhibit.

## ORCHID NOTES AND NEWS.

Two meetings of the Royal Horticultural Society will be held at the Royal Horticultural Hall, Vincent Square, Westminster, during June, on the 4th and 18th, when the Orchid Committee will meet at the usual hour, 12 o'clock noon.

The Society's Summer Show will be held at Holland House, Kensington, on Tuesday, Wednesday, and Thursday, July 2nd, 3rd, and 4th. The Orchid Committee will meet at 10.30 a.m., and the exhibition opens at noon. Silver Cups and Medals will be awarded according to Merit, and the Sixty Guinea Coronation Challenge Cup will be awarded to the most meritorious exhibit in the Show (excluding the winners of the two previous years).

A meeting of the Manchester Orchid Society will be held at the Coal Exchange, Manchester, on June 6th, at the usual hour, and the Annual General meeting will be held at 3 p.m. on the same date. This completes the Society's year, and further arrangements will shortly be issued.

FERTILISATION OF ARACHNANTHE LOWII.—M. Schwarz, Chef de Culture at Ferrieres-en-Brie, Seine et Marne, has succeeded in self-fertilising both the orange-coloured and the red-blotched flowers of this remarkable plant, and also succeeded in cross-fertilising them, both ways, and the capsules are now developing. It will be interesting to watch the development of the seedlings of this remarkable plant.—*Journ. Soc. Nat. Hort.Fr.*, 1912, p. 146.

## ORCHID PORTRAITS.

ANGRÆCUM SESQUIPEDALE.—*Journ. Hort.*, 1912, i. pp. 393, 394, with fig.

BRASSOCATTLEYA DIGBYANO-MOSSIÆ WESTONBIRT VAR.—*Gard. Chron.*, May 25, 1912, Suppl., p. vii., fig. 3; *Journ. Hort.*, 1912, i. p. 464, with fig.

CYMBIDIUM WOODHAMSIANUM ("Woodhamensis") FOWLER'S VAR.—*Gard. Mag.*, 1912, p. 391, with fig.

CYPRIPEDIUM ROYAL GEORGE.—*Gard. Mag.*, 1912, p. 379, with fig.

CYPRIPEDIUM ROYAL SOVEREIGN.—*Gard. Mag.*, 1912, p. 357, with fig.

DENDROBIUM APOLLO ALBENS.—*Gard. Chron.*, May 25, 1912, Suppl., p. viii., fig. 4.

DISA SAGITTALIS.—*Gard. Chron.*, 1912, i. p. 312, fig. 154.

LÆLIOCATTLEYA CANHAMIANA.—*Gard. Chron.*, May 25, 1912, Suppl., p. vi., fig. 2.

LÆLIOCATTLEYA GLADIATOR.—*Gard. Chron.*, May 25, 1912, Suppl., p. ix., fig. 5.

LÆLIOCATTLEYA HELIUS.—*Gard. Chron.*, 1912, i. p. 333, fig. 165.

LÆLIOCATTLEYA SALOME.—*Gard. Chron.*, May 25, 1912, Suppl., p. x., fig. 6.

ODONTIODA QUEEN MARY.—*Gard. Mag.*, May 25, 1912, Suppl., p. 28, with fig.; *Garden*, 1912, p. 263, with fig.

ODONTOGLOSSUM ARMSTRONGIÆ.—*Gard. Mag.*, 1912, pp. 378, 379, with fig.

ODONTOGLOSSUM UROSKINNERI BURFORD VAR.—*Gard. Chron.*, 1912, i. p. 307, fig. 153.

## ANSWER TO CORRESPONDENTS.

[*Orchids are named and questions answered here as far as possible. Correspondents are requested to give the native country or parentage of plants sent. An* ADDRESSED *postcard must be sent if a reply by post is desired (abroad, reply postcards should be used). Subjects of special interest will be dealt with in the body of the work.*]

R.K.; W.W.B.; E.F.C.—Held over until next month owing to pressure on our space.

W.B.—We do not recognise the Cattleya. It looks like a hybrid, but you do not state whether it is an imported plant or not.

Photographs received, with thanks.—H.G.A.; W.B. & Sons.

E.O.—Possibly the reference to Osmunda regalis fibre was only an inference, that being the familiar species here, but we have never heard of its native fibre being used. Indeed it is too rare, and very local. We have a strong plant, but it does not look like producing much fibre for Orchid culture. We should much like to have the promised note.

CATALOGUE RECEIVED.—We have received the Classified and Descriptive Price List of Orchids issued by Messrs Lager & Hurrell, Summit, New Jersey, containing an extensive selection of Orchids, and profusely illustrated.

VOL. XX., No. 235. THE JULY, 1912.

# ORCHID REVIEW

Edited by R. ALLEN ROLFE, A.L.S.

Contents.


| | PAGE |
|---|---|
| Amateur's Collection ... ... ... | 196 |
| Answers to Correspondents ... ... | 224 |
| Calendar of Operations for July ... ... | 210 |
| Epidendrum tripunctatum ... ... ... | 208 |
| Evolution of the Orchidaceæ ... ... | 204 |
| Hybridist ... ... ... ... ... | 199 |
| Odontioda Rolfei ... ... ... ... | 199 |
| Odontonia St. Alban ... ... ... | 199 |
| Læliocattleya Britannia ... ... ... | 200 |
| Miltonia vexillaria var. Snowflake ... ... | 209 |
| Oncidium phymatochilum ... ... ... | 201 |
| Ophrys hybrids ... ... ... ... | 199 |
| Orchid Notes and News ... ... ... | 223 |
| Orchid Portraits ... ... ... ... | 224 |
| Orchids at Burford ... ... ... ... | 202 |
| Orchids, Chinese ... ... ... ... | 223 |
| Orchids in season ... ... ... ... | 198 |
| R.H.S. and the Royal International Horticultural Exhibition ... ... ... | 207 |
| Royal International Horticultural Exhibition ... ... ... ... ... | 193 |
| Societies— | 214 |
| Manchester and North of England Orchid ... ... ... ... ... | 219 |
| Royal Horticultural ... ... ... | 214 |
| Yorkshire Gala ... ... ... ... | 221 |

ILLUSTRATIONS.

| | |
|---|---|
| Læliocattleya Britannia ... ... ... | 200 |
| Miltonia vexillaria var. Snowflake ... ... | 209 |
| Oncidium phymatochilum ... ... ... | 201 |


PRICE SIXPENCE MONTHLY. POST FREE 7 - PER ANNUM—SEE OVERLEAF.


# SANDER & SONS.

We receive fortnightly fresh consignments of the best

**OSMUNDA FIBRE**

from our own freehold lands, situated in the best Osmunda producing territory of the United States of America. Price per bushel, **2/6**; per bag, **8/6.**

BY APPOINTMENT TO HIS MAJESTY THE KING.

# *William Bull & Sons*

**WORLD-RENOWNED ORCHIDS.**

HYBRIDS A GREAT SPECIALITY.

Catalogue free on application.

**KING'S ROAD, CHELSEA, LONDON.**

# NOTICES

The ORCHID REVIEW is published regularly at the beginning of each month price 6d. net. Annual Subscription, post free, 7/-, payable in advance.

Volumes I. to XIX. can be supplied unbound at 6/-, or bound in cloth, 7/6, postage extra.—Cost of postage: book post, 9d. per volume; parcel post within the United Kingdom only, 5d. per single volume (series by weight).

Also cases for binding either volume at 1/6 each, post free throughout the postal union.

The ORCHID STUD-BOOK. By R. A. Rolfe and C. C. Hurst. By Parcel Post, 7/11. Abroad, by Book Post, 8/3.

All Subscriptions, Advertisements, Communications and Books for review, should be addressed:—The **Editor of the Orchid Review**, Lawn Crescent, Kew.

Cheques and Postal Orders (sent as above) should be made payable to FRANK LESLIE & Co., and, to ensure safety in transit, should be crossed "& Co."

---

*Agents for copies supplied through the Trade—*

**MARSHALL BROTHERS, Ltd.**, KESWICK HOUSE, PATERNOSTER ROW, LONDON, E.C.

---

## SCALE OF CHARGES FOR ADVERTISEMENTS.

| | £ | s. | d. |
|---|---|---|---|
| Five lines and under in column ... | 0 | 2 | 6 |
| Per line after ... ... ... ... ... | 0 | 0 | 6 |
| One-eighth column... ... ... ... | 0 | 4 | 0 |
| Quarter column or eighth page ... | 0 | 7 | 0 |
| Half column or quarter page ... | 0 | 12 | 0 |
| One column or half page ... ... | 1 | 2 | 6 |
| Whole page ... ... ... ... ... | 2 | 0 | 0 |

The Editor invites communications on interesting subjects (which should be written on one side of the paper only), also portraits, &c., of rarities.

Advertisements and late news should be received not later than the 24th of the month.

---


# CHARLESWORTH & Co.,

ORCHID RAISERS, GROWERS,
IMPORTERS AND EXPORTERS,

# HAYWARDS HEATH,

SUSSEX,

Invite their Patrons and Friends to pay them a visit of inspection at their New Establishment,
——————where may be seen the——————

## Finest Trade Collection of Orchids In Europe.

A Conveyance will be at the Railway Station to meet Visitors, upon notification being kindly given.

CONTINENTAL BRANCH—RUE GERARD, BRUSSELS.

Telephone No. 50 Haywards Heath.

Telegrams:—Charlesworths, Haywards Heath.

Please Address—CHARLESWORTH & Co., Haywards Heath, Sussex.

# THE ORCHID REVIEW.

VOL. XX.] JULY, 1912. [No. 235.

## THE ROYAL INTERNATIONAL HORTICULTURAL EXHIBITION.

AN arrangement was made with the Directors of the Royal International Horticultural Exhibition by which the Committees of the R.H.S. adjudicated upon the plants entered for Certificates at the Royal International Show, the certificates taking the same status as those awarded at the usual R.H.S. meetings. We believe that the arrangement was not made in time for the members to be notified individually, and that some of them were not aware of it until afterwards. The following members of the Orchid Committee were present: Baron Bruno Schröder (Chairman), J. O'Brien (Hon. Sec.), W. Bolton, H. J. Chapman, R. G. Thwaites, F. J. Hanbury, G. F. Moore, W. H. White, H. G. Alexander, J. Charlesworth, J. E. Shill, R. A. Rolfe, E. Ashworth, W. Thompson, J. Cypher, W. Cobb, and S. H. Low, with A. A. Peeters, Dr. J. Troyanowsky, Prince A. Metschersky, and H. Graire (visitors). Fourteen First-class Certificates and thirteen Awards of Merit were given as follows:—

### FIRST-CLASS CERTIFICATES.

BRASSOCATTLEYA THE KING (parentage unrecorded).—A hybrid with enormous flowers of excellent shape, deep rose-coloured sepals and petals, and a yellow throat to the lip, with a rather darker suffusion in front and some purple lines at the base. Exhibited by Lieut.-Col. Sir G. L. Holford.

CATTLEYA DIRCE MAGNIFICA (Vulcan × Warscewiczii).—A very handsome form, having deep rose-purple sepals and petals, with a crimson-purple suffused blotch near the apex, and a crimson-purple lip lined with yellow at the base. Exhibited by Lieut.-Col. Sir G. L. Holford.

CATTLEYA MENDELII QUEEN MARY.—A very beautiful variety, having white sepals and petals, and a delicate rosy suffusion in front of the yellow disc of the lip. Exhibited by Lieut.-Col. Sir G. L. Holford.

DENDROBIUM DALHOUSIEANUM LUTEUM.—A charming sulphur-yellow variety, with a pair of bright purple blotches at the base of the lip. Exhibited by Lieut.-Col. Sir G. L. Holford.

LÆLIA PURPURATA SCHRŒDERÆ.—A very pretty variety, having nearly white sepals and petals, and some violet veins on the lip. Exhibited by Baron Bruno Schröder, The Dell, Egham (gr. Mr. J. E. Shill).

LÆLIOCATTLEYA LUSTRE VAR. LAVINGO (L.-c. callistoglossa × C. Lueddemanniana).—A very beautiful variety, having bright rose-pink sepals and petals, and the front of the lip crimson-purple, with some yellow lines in the throat. Exhibited by Lieut.-Col. Sir G. L. Holford.

MILTONIA HYEANA VAR. VOGELSANG.—A large and beautiful white variety, with a bright yellow blotch at the base of the lip and a trace of rose-purple. Exhibited by M. Firmin Lambeau, Brussels.

MILTONIA JULES HYE DE CROM (parentage unrecorded).—A very beautiful hybrid, having white flowers, with a rosy tinge at the base of the petals, and a large butterfly-like crimson-purple blotch at the base of the lip. Exhibited by M. Jules Hye de Crom, Ghent.

ODONTIODA QUEEN MARY (Odontioda Vuylstekeæ × Odontoglossum eximium).—A very brilliant hybrid, of excellent shape, having scarlet-red flowers with a pale rosy margin, and a distinct whitish line right round the petals near the margin, while the strongly three-lobed lip is yellowish, spotted with crimson, and with a large crimson blotch in front of the yellow disc. Exhibited by Messrs. Charlesworth & Co.

ODONTIODA MRS. F. M. OGILVIE (Odontoglossum amabile Royal George × Odontioda Vuylstekeæ).—A very beautiful flower, having creamy-white ground colour, heavily blotched with salmon-red. Exhibited by F. M. Ogilvie, Esq.

ODONTOGLOSSUM AMABILE DUKE OF PORTLAND.—A large and handsome variety, having violet-purple flowers of excellent shape, with a pale margin. Exhibited by Messrs. Sander & Sons.

ODONTOGLOSSUM EXIMIUM EXCELSIOR.—A beautiful variety, having solid claret purple blotches on a clear white ground colour. Exhibited by M. Ch. Vuylsteke, Ghent.

ODONTOGLOSSUM EXIMIUM VAR. KING GEORGE V.—A very fine and handsome form, having broad sepals and petals, with solid violet-purple blotches and a distinct white outer margin, the lip being white with a large blotch in the centre. Exhibited by Messrs. Sander & Sons.

ODONTOGLOSSUM HER MAJESTY (parentage unrecorded).—A fine hybrid, having the flowers copiously blotched with claret-purple and margined with white. Exhibited by Messrs. Charlesworth & Co.

## AWARDS OF MERIT.

CATTLEYA MOSSIÆ MADAME JULES HYE.—A remarkably large variety, with rich crimson lip. Exhibited by M. Firmin Lambeau, Brussels.

LÆLIOCATTLEYA GLADIATOR (C. Mossiæ × L.-c. callistoglossa).—A handsome hybrid, with deep rosy lilac sepals and petals, and a rich crimson lip lined with yellow at the base. Exhibited by Lieut.-Col. Sir G. L. Holford.

LÆLIOCATTLEYA LUSTRE VAR. BUDDHA.—A charming variety, having

the sepals and petals delicately suffused with lilac, and a rich purple lip of remarkable breadth, with darker veining, and the throat and base lined with yellow and white. Exhibited by Lieut.-Col. Sir G. L. Holford.

LÆLIOCATTLEYA ULYSSES (L.-c. Fascinator × C. Mossiæ Reineckeana).—A beautiful hybrid, having white flowers of great substance, and some purple suffusion on each side of the yellow disc. Exhibited by Lieut.-Col. Sir G. L. Holford.

LÆLIOCATTLEYA ULYSSES ALBA.—A charming pure white form of the preceding, from the same exhibitor.

ODONTIODA BRADSHAWIÆ VAR. LADY COLMAN.—A very brilliant scarlet form, of excellent shape and substance, the plant carrying three fine racemes. Exhibited by Sir Jeremiah Colman, Bart.

ODONTIODA BRADSHAWIÆ VAR. VOGELSANG.—A fine variety, handsomely blotched with scarlet-red on a light ground. Exhibited by M. Firmin Lambeau.

ODONTIODA CHANTECLEER (C. Nœtzliana × Odontioda Cooksoniæ).—A fine hybrid, bearing compact racemes of rounded brilliant scarlet-red flowers, with a bright yellow disc and some paler lines in front. Exhibited by Messrs. Charlesworth & Co.

ODONTOGLOSSUM AMABILE PRINCESS MARY.—A beautiful hybrid, having large white flowers, heavily blotched and spotted with purple towards the centre. Exhibited by Messrs. Sander & Sons.

ODONTOGLOSSUM ARDENTISSIMUM VAR. CARMEN.—A handsome form, bearing a spike of about twenty flowers, with large rose-purple blotches on a clear white ground. Exhibited by F. M. Ogilvie, Esq., Oxford.

ODONTOGLOSSUM CRISPUM JAMES MCNAB.—A fine form, copiously blotched with red-purple on a white ground. Exhibited by Messrs. Sander & Sons.

ODONTOGLOSSUM MAJESTICUM VAR. JAMES WHITTON (eximium × percultum).—A very large and handsome form, having the sepals and petals rich purple margined with white, and some rich purple veining on the lip. Exhibited by Messrs. Sander & Sons.

ZYGOPETALUM ARMSTRONGIÆ (Mackayi × rostratum).—A distinct and handsome hybrid, having purple sepals margined with green, and the lip rather elongated, and violet-purple at the base, becoming red-purple in the middle and much paler at the margin. Exhibited by Messrs. Armstrong & Brown, Tunbridge Wells.

Owing to pressure on our space the foregoing had to be omitted last month, and the report on some of the groups had to be severely cut down, in some cases over half our notes being suppressed.

In the magnificent group staged by Messrs. Sander & Sons we noted beautiful examples of Aërides Houlletianum, A. Lobbii, and the rare A.

crispum Warneri, Phalænopsis tetraspis and speciosa, Vanda limbata, some rare Angræcums, Acinetas, Sranhopeas, Dendrobium Goldiei, and Sanderæ, some good plants of Disa Luna, Lycaste tricolor, L. spectabilis (Skinneri × aromatica), Vanilla planifolia in fruit, Cymbidium tigrinum with six spikes, over fifty hybrid Odontoglossums, forty different Cypripediums, and about twenty brilliant Odontiodas, while the Miltonias, Cattleyas, Brassocattleyas, Læliocattleyas, hybrid Phaius, and other showy Orchids were magnificent. There were also four charming little Odontonias, all derived from Miltonia Warscewiczii as the seed parent, as follows: O. ornata (Odontoglossum Wilckeanum ♂), a large dark-coloured form, O. decora (O. Adrianæ ♂), a smaller well-spotted form, O. Lælia Sander (O. amabile ♂), and O. Roger Sander (O. percultum ♂). They should develop into good things when the plants become strong.

## THE AMATEUR'S COLLECTION.

By C. ALWYN HARRISON, F.R.H.S.

### COOL HOUSE.

Now that the sun gains more power, the blinds should be used whenever it shines upon the roof glass, and, therefore, the shading is generally required from about 10.30 till two, or even a little later, on exceptionally sunny days towards the end of the month. No fire heat will be needed now, unless unseasonable weather be experienced. The top and bottom ventilators can be opened earlier than during last month. Always bear in mind that fresh air is of the utmost importance to these Cool house Orchids, and the house should never feel stuffy when entered at any time. The general advice upon watering given in last month's article may still be acted upon, but a slight spray over the leaves should now be practised twice daily, usually about 9 a.m., and before the house is shut up for the night. Of course, all the pipes, staging, and paths must be kept well damped now onwards, and usually this damping down should be done about nine, at midday, and again about 3.30 p.m.

Lycaste Skinneri has now finished flowering, and, if requiring it, may be repotted. Remove the plant with great care from the old pot, and, after trimming off all dead and decayed roots and pseudobulbs, place it in a fresh pot, two-thirds full of clean broken crocks. For soil, use a mixture of osmunda fibre, peat, and loam—a good yellow fibrous loam for preference. Mix these ingredients together, and use in a damp state. This Orchid does not like frequent root disturbance, and so should be set well to one side in the fresh pot, to allow for futher development. Bifrenaria Harrisoniæ may also receive similar treatment. Water all newly-potted carefully until it is seen that they have obtained a firm hold of the compost.

The house should now be very gay with Odontoglossum crispum and the many hybrids. Many of the latter can now be procured in an unflowered size, and afford a vast store of interest for their growers. If any exceptionally choice varieties are possessed, and it is desired to increase the stock, sever the rhizome clean through with a sharp knife, two pseudo-bulbs behind the last-made growth. This severed portion will very often emit fresh roots and produce a fresh bulb, and when this is observed to be the case, it should be removed and potted up singly. Any of the long-spiked Oncidiums, such as Marshallianum, macranthum, oblongatum, sarcodes, and Wentworthianum, also Odontoglossum hastilabium, and Edwardii, if in bud, should now be given quantities of water daily, otherwise their multitudinous flowers may fail to expand to their full beauty.

### CATTLEYA HOUSE.

Water must now be given more freely to all the inmates of this house, and, for a beginner, the following rules may serve as a guide, but should not be absolutely carried out to the letter. From now onwards all plants in bud and full growth should receive a good dose of water every alternate day, but those just starting every three days, and any which are resting, rather less frequently. The staging, path and pots should be kept well saturated with moisture at all times, which will probably necessitate damping three times a day. The plants must also be sprayed over their leaves once in the morning and again about 3 p.m. Give all possible air which can be admitted without lowering the temperature below 65° Fahr. Fire heat will now usually only be needed to maintain an even degree of 65° Fahr. during the night and may be dispensed with during the day. Shading should be lowered only as long as the sun is shining with its full force upon the roof glass.

Any Dendrobiums which have now finished flowering, such as crassinode, nobile, or its many varieties, and Wardianum, may receive attention or be repotted. Always use pots that are small in proportion to the size of the plant, and repotting, in fact, is only needed about every other year, merely to renew the compost, as a larger pot is rarely required, as when all dead bulbs and roots are removed, the same-sized receptacle can be again employed, but on no account use the same pot. Make the plants moderately firm, and do not place them too low in the pot; the rhizomes should be about $\frac{1}{4}$-inch below the rim of the pot. For compost use a mixture of osmunda fibre, polypodium fibre, sphagnum moss, and oak leaves.

Many handsome hybrids of Cattleya and Lælia should now be making a fine display, together with forms of those two fine species, C. Mendelii and C. Mossiæ. Renanthera Imschootiana should now be in flower, and must be sprayed over the leaves once every day, taking care not to touch the flowers.

## ORCHIDS IN SEASON.

A VERY interesting hybrid from Cattleya Mendelii and C. Mossiæ has been sent from the collection of R. G. Thwaites, Esq., Streatham, by Mr. Black. The cross was made in Australia, in the collection of R. M. Poole, Esq., who sent some of the seed to us, and Mr. Thwaites kindly undertook the task of growing it (*O.R.*, xv. p. 229). One of the seedlings has now produced its first scape, which has been sent to us. The flowers are fairly intermediate in character, having lilac rose sepals and petals, and a prettily undulate lip, most recalling C. Mossiæ in colour. There is a large amount of orange yellow in the throat, and some crimson-purple in front and down the disc, with numerous radiating whitish lines, and a broad pale margin. The flowers are at present smaller than in each of its handsome parents, but it should develop into a good thing when the plant becomes strong.

A flower of the beautiful Odontoglossum splendidissimum is sent from the collection of Mrs. Norman Cookson, Oakwood, Wylam. It has much of the O. Pescatorei shape, and is heavily blotched with deep violet-purple, there being one very large blotch on each petal and two on the sepals. Its descent is thus described by Mr. Chapman. A flower of O. crispum Cooksonianum was crossed with O. Pescatorei Veitchianum yielding a good form of O. armainvillierense, spotted chiefly on the sepals. This was again crossed with O. Pescatorei Veitchianum, with the result above mentioned. Mr. Chapman thinks that a third cross with the same would practically result in O. Pescatorei Veitchianum.

Three forms of a pretty hybrid called Læliocattleya Uftona, and derived from Lælia purpurata × Læliocattleya highburiensis, are sent from the collection of E. F. Clark, Esq., Evershot, Dorset. They are most like the purpurata parent in shape, and have rather elongated rosy lilac sepals and petals, while two of them have the front half of the lip intense crimson-purple, the throat deep yellow, and the base somewhat veined with red-purple on a pale ground, and the third has a paler lip, shading off to lilac in front. The cross was made in May, 1902. A fourth flower has orange buff sepals and petals, with a little purple suffusion and veining, and the lip much like the two first mentioned. It came up with the preceding lot, but Mr. Clark suggests that it may possibly have come from C. Warneri × L. cinnabrosa, of which he raised a few seedlings about a month later. We cannot trace the Warneri influence, and think the first cross more likely. The L. cinnabarina character is very pronounced, but highburiensis and cinnabrosa are both half cinnabarina. A fifth flower is suggested as probably a form of L. Lucia (C. Mendelii × L. cinnabarina), and has rich orange yellow sepals and petals, the base of the lip lighter buff, and the front lobe rich purple-crimson. They form an interesting little group.

Two interesting flowers are sent from the establishment of M. C. F. Karthaus, Potsdam, by Mr. R. Blossfeld. Cattleya Seligeræ (Whitei × Adonis) is a small seedling flowering for the first time, and should develop into a fine thing. It is very richly coloured, and has a deeply three-lobed, purple-crimson lip. It is dedicated to Mrs. W. Seliger, Hartford, Conn., U.S.A., an enthusiastic lady amateur. The other is a form of C. Norma (C. armainvillierensis × Mossiæ), and is very promising.

## THE HYBRIDIST.

ODONTONIA ST. ALBAN.—A flower of the handsome Odontonia St. Alban (Miltonia Warscewiczii × Odontoglossum Pescatorei), which received an Award of Merit from the R.H.S. on June 18th last, is sent by Messrs. Sander & Sons, St. Albans. It bears a considerable resemblance to O. Lairesseæ, but the flowers are slightly smaller, and have much of the neat shape of the Pescatorei parent. The ground colour is white, with brownish purple blotches on all the segments, and the lip is very broadly pandurate, and clear white in front, with a few purple marginal dots, there being also a pale zone round the bright yellow crest. The column is spotted with purple, and the wings are entire. The plant bore about twenty flowers, and will evidently produce a large panicle when it becomes strong.

ODONTIODA ROLFEI.—A curious little Odontioda, raised in the collection of R. G. Thwaites, Esq., Streatham, from Cochlioda vulcanica ♀ and Odontoglossum Hunnewellianum ♂, and exhibited at the R.H.S. meeting held on June 18th last. The flowers are most like the Cochlioda parent in shape, and the sepals and petals are of a peculiar purple brown, with a few pale yellow markings on the latter. The lip is three-lobed, nearly free from the column, with some purple blotches on the front lobe, a few purple dots on the side lobes, and the crest whitish. The column wings are broad and minutely denticulate.

OPHRYS HYBRIDS.—At the meeting of the Société Nationale d' Horticulture de France, held on March 28th last, some Ophrys hybrids were exhibited by M. G. Camus. They had been obtained by M. F. Denis, Balaruc-les-Bains, by crossing Ophrys tenthredinfera with the pollen of O. aranifera, and were quite intermediate between the parents. They are believed to be the first Ophrys hybrids raised artificially, though a number of natural hybrids have been recognised, and among them this particular one, which has been found in three localities in Italy, and is known as O. Grampinii (Cortesi in *Ann. di Bot.* i. pp. 359, 360, fig. C). He also exhibited examples of O. bombyliflora from M. Denis.—*Journ. Soc. Nat. Hort. France*, 1912, p. 186.

## LÆLIOCATTLEYA BRITANNIA.

THE annexed figure represents the magnificent Læliocattleya Britannia, a hybrid derived from L.-c. Canhamiana × C. Warscewiczii, and is reproduced from a photograph which has been kindly forwarded by Lieut.-Col. Sir George L. Holford, K.C.V.O., in whose collection it was raised by Mr. Alexander. It is much in the way of L.-c. Canhamiana, but has larger

Fig. 27. LÆLIOCATTLEYA BRITANNIA.

and more highly-coloured flowers. Their general shape is well shown in the photograph, taken by Mr. F. Waldock. It is one of the gems from the magnificent group staged at the recent International Exhibition. L.-c. Britannia was originally raised by Messrs. Sander & Sons, St. Albans, who exhibited it at a meeting of the R.H.S. in September, 1903 (*O.R.*, xi. p. 307).

## ONCIDIUM PHYMATOCHILUM.

A FINE specimen of Oncidium phymatochilum was exhibited by Mr. H. Dixon, Spencer Park Nursery, Wandsworth Common, in his Gold Medal group at the recent Royal International Horticultural Exhibition, which we have pleasure in figuring from a photograph sent by Mr. Dixon. The species was described by Lindley in 1858 (*Paxt. Fl. Gard.*, i. pp. 78, 88,

Fig. 28. ONCIDIUM PHYMATOCHILUM.

with fig.), when the author remarked: "Under this name is now not uncommon in gardens, a charming Orchid, supposed to have been obtained from Mexico, with erect, narrow, somewhat panicled racemes of greenish flowers, having a snow white lip. Three years since we received it from Messrs. Loddiges, and the late Mr. Clowes. . . . The flowers are remarkable for the great extension of the lateral sepals, on which account,

and because of their green colour spotted with chocolate brown, they have much the appearance of belonging to some Brassia. The lip is pure white, with yellow tubercles and a few stains of the same colour near the base." Soon afterwards Reichenbach sent Lindley a few flowers, remarking "All gardeners of Hamburgh insist that it came from Brazil" (*Lindl. Fol. Orch.*, Oncid., p. 54), and the point seems to have been confirmed a few years later, when the species was figured in *Pescatorea* (t. 35), this plant, which flowered in the collection of M. Jean van Volxem, having been sent by M. Pinel, from Novo Friburgo, Brazil, at the beginning of 1853. R. A. R.

## ORCHIDS AT BURFORD.

A VISIT to Burford is always an interesting experience, and the members of the Jury of the Royal International Horticultural Exhibition, with many lady and other friends, who were the guests of Sir Trevor and Lady Lawrence on Saturday, June 25th, spent a very enjoyable afternoon in their delightful garden under Box Hill, when many members of the party spent a considerable time in examining the numerous interesting features of Sir Trevor's famous collection of Orchids. Some of us recalled a similar delightful experience on the occasion of the last Hybridisation Conference six years ago (*O.R.*, xiv. pp. 270-272), but being nine weeks earlier in the year there was quite a different set of things in bloom. As before, every plant was in its own appropriate situation, where it had been grown, and how much more interesting they appear than when collected together and mixed up, warm, intermediate, and cool, just to make a show. Truly the absence of a Show house has its compensating advantages. Our notes, as before, follow no particular order, the plants being mentioned just as we found them, but the rarities naturally received the most attention. The more familiar showy things were too numerous to record in detail.

In the Odontoglossum house, which we first entered, we noted the fine plant of Dendrobium Victoria-Regina, bearing a large number of its striking violet-blue flowers, and there can be no doubt that this is the proper place in which to grow the species, for it is known to come from a high elevation in the Philippines. The curious D. thyrsiflorum Galliceanum was also bearing six fine racemes. Lycaste Dyeriana was bearing three of its light green flowers, its pendulous habit and glaucous leaves being also very distinct features. There was also a good plant of Oncidium Massangei, the very distinct O. candidum, Odontoglossum ramos-Edwardii, bearing a panicle of flowers, and a fine lot of O. crispum, including some good spotted varieties. These, however, we shall pass over, merely noting that O. c. purpurascens, with its beautifully crisped and purple-tinted flowers, was one of the most charming.

The next house contained an interesting lot of things in bloom, including

the rare Cymbidium virescens, Angræcum Scottianum, Renanthera Imschootiana, Cirrhopetalum Collettii, the rare Bulbophyllum orthoglossum and B. Dearei, Ansellia gigantea, Calanthe veratrifolia and C. japonica, Oncidium pumilum, Saccolabium ampullaceum, a very fine and distinct form of Dendrobium Devonianum, and a fine plant of Epicattleya radiato-Bowringiana, the flowers largely combining the shape of the Epidendrum with the colour of the Cattleya parent.

Passing into another house we noted a fine specimen of Cirrhopetalum Cumingii, bearing numerous umbels of its pretty purple flowers, a good example of Bulbophyllum barbigerum, its feathery lips oscillating up and down with every breath of air, the handsome Dendrobium illustre, some fine Thunias, the rare Eria ferruginea, and other interesting things, while an adjacent house contained a well-bloomed plant of the rare Dendrobium Loddigesii, one of the most charming of the Chinese species.

A Warm house, which we next entered, contained many interesting and beautiful things, among which we noted Dendrobium Parishii and the rare D. superbum Huttonii, the handsome D. formoso-Lowii, the curious D. crumenatum, whose flowers last but a single day, and on closing hang down like dead birds suspended from the branches, hence the name "Pigeon Orchid" by which it is known at Singapore. Bulbophyllum was represented by B. calamarium, B. nudiscapum, and B. polyblepharon, all with feathery lips, with two or three others, and the rare little Cirrhopetalum elegantulum was also in bloom, together with Holothrix Schlechteriana, a very curious South African Orchid, the remarkable Bonatea speciosa, Aërides Fieldingii, Podochilus lutescens, a Malayan Orchid, hardly ever seen in cultivation, a species of Cadetia, and many interesting Cypripediums, species and hybrids.

Passing into another house we found some plants of the beautiful Odontoglossum citrosmum in bloom, including a pretty white form, Epidendrum aromaticum and atropurpureum, Cœlogyne burfordiensis, a striking hybrid between C. aspersa and C. pandurata, with a few Phalænopsis.

In an Intermediate house were some good plants of Disa Luna, a well-flowered Dendrobium teretifolium, the rare Brassia Keiliana, Restrepia elegans, Oncidium leucochilum, Odontoglossum Uroskinneri, Epidendrum leucochilum and dellense, the very rare Australian Dendrobium lichenastrum, and Maxillaria Sanderiana, while some good Miltonia Bleuana and vexillaria were among the plants noted.

In a Cattleya house a lot of familiar Cattleyas and Læliocattleyas were in bloom, a plant of L.-c. Ballii with three very fine racemes being most effective. Here were also plants of Maxillaria venusta aud others, Dendrobium Annæ and albosanguineum, Sobralia Colmaniæ, the brilliant Epiphronitis Veitchii, and other interesting species and hybrids, while in

another house were the bright yellow Ipsea speciosa and the curious Megaclinium triste.

In the Masdevallia house many interesting species were in bloom, including M. Arminii, Wageneri, and the pendulous M. deorsa, the curious little M. simula, M. ephippium, and many others, a touch of colour being given by plants of M. ignea, Courtauldiana, Henrietta, and the handsome M. Shuttryana var. Chamberlainii. Here were also plants of the curious Pleurothallis platystachys and the gnat-like P. macroblepharis, Restrepia trichoglossa, Scaphosepalum pulvinare, Theodorea gomezoides, with a number of other interesting things.

We have limited our notes to the rarer and more noteworthy of the plants seen in bloom at the time of our visit; without such a limitation they might have been enormously extended, for the collection is one of the richest in the country, and the number of rare species and varieties it contains would form a large Catalogue, while the hybrids, including those raised at Burford, are also numerous. But we cannot conclude without mentioning the examples of good culture everywhere apparent, and the good condition of the collection generally, which testifies to the skill and attention brought to bear on it by Mr. White and his assistants. Some of their successes we know to be the result of many experiments, as is inevitable in such a varied collection. Lastly, we desire to thank Sir Trevor and Lady Lawrence for a very enjoyable afternoon.

## EVOLUTION OF THE ORCHIDACEÆ.

*(Continued from vol. xix. page 292).*

THE great subtribe Sarcantheæ forms the culminating point of the Vandeæ, and completes our review of the genera, for Bentham's one other subtribe, Notylieæ, is now broken up and the genera referred elsewhere. Sarcantheæ forms a very natural group, and is thus defined by Bentham. The chief character of this subtribe is vegetative. The genera are all epiphytal and never pseudobulbous. The stem or caudex, corresponding to the rhizome of the preceding subtribes, creeps and bears adventitious roots, at least at the base, and often for its whole length. It is usually clothed with scarious or closely appressed leaf-sheaths; the leaves themselves are more or less distichous, fleshy, or coriaceous, very rarely thin, never plicate. In some cases the end of the caudex or its branches becomes erect or pendulous, without roots and with more closely distichous small leaves. In a few genera these leafy stems are crowded on a very short creeping rhizome, or in a few species the whole stem or rhizome is very short, with a dense tuft of roots, and only one or two leaves, or none at all. The peduncles are always lateral, either evidently axillary or apparently leaf-opposed, or breaking irregularly through the leaf-sheaths. The flowers are generally racemose

or paniculate, but occasionally solitary on the peduncles. Bentham included thirty-two genera in the Sarcantheæ, but Lockhartia, Centropetalum, and Pachyphyllum are now excluded, while a few have since been described, and it is estimated that the group now contains about forty genera and upwards of 500 species. The majority of the genera are Indo-Malayan, a few reaching Australia, but Angræcum, Listrostachys, Mystacidium, Æonia, Cryptopus, and Aëranthes, are African and Mascarene, while Dendrophylax and Cryptocentrum are tropical American.

Although the group, as a whole, is very well-defined, it is difficult to subdivide naturally, and much difference of opinion exists as to the limits of some of the genera, owing to the diversity of floral structure. Bentham subdivided the group into three series, founded on the presence or absence of a mentum to the perianth or of a spur to the lip, though he pointed out that the distinction was not always well marked.

In the group having neither a foot to the column nor a spur to the lip Bentham placed the four following genera: Luisia, ranging from North India and Japan to New Caledonia, and having about 15 species, with terete leaves, and quaintly-shaped flowers; Cottonia, now limited to the South Indian C. macrostachya, Wight, with a paniculate inflorescence and a beetle-shaped lip; Stauropsis, ranging from India and China to New Guinea, and now including about twelve species, with rather fleshy flowers, arranged in spikes or panicles; and Arachnanthe, an Indo-Malayan genus of about ten species, in which the lip is articulated to the base of the column. It contains the remarkable Arachnanthe Lowii, which bears two differently-coloured kinds of flowers, the object of which still remains a mystery. Esmeralda, Rchb. f., based on Vanda Cathcartii, Lindl., was included in Arachnanthe by Bentham, and the two agree in having an articulated lip. Diploprora, Hook. f., has since been separated from Cottonia on account of its different habit and structure. It contains a single species, ranging from India and South China to Ceylon.

Bentham's next group was characterised by having a short foot to the column, to which the sepals are adnate at the base, and the lip either spurless or with a spur remote from the base. Seven genera were included; Phalænopsis, with about forty species, mostly Malayan; Doritis, with about six species, natives of India and Malaya; Rhynchostylis, with two or three species, of similar distribution; Sarcochilus, with over 100 species, and ranging from North India to Australia and the Pacific Islands; Trichoglottis, now including about twenty Malayan species; Aërides, with about forty species, ranging from North India and Japan to New Guinea: and Aëranthes, an interesting Mascarene genus now containing about eight species. Sarcochilus was extended to include several other genera which had been recognised by Lindley, Blume and others, and which, it is

generally admitted, are distinct, but very few of them are known in cultivation, and we cannot go into them in detail. Two or three small genera have since been described. A large number of Malayan representatives of the group are still very imperfectly known.

The rest of the Sarcantheæ are characterised by having a footless column, and the lip variously saccate or spurred. Eighteen genera were recognised by Bentham, of which twelve are Asiatic, four African and two American. Most of the genera are well known in gardens, and in some cases large numbers of species have been discovered since Bentham's time, and these are taken account of in the following notes.

The Asiatic genera are as follows: Renanthera, with about ten Indo-Malayan species, and mostly brightly-coloured flowers, as seen in R. coccinea and the well-known R. Imschootiana; Vanda, ranging from India and South China to North Australia, and containing about forty species, many of which are familiar in gardens; Saccolabium, with a pretty similar distribution, and containing about 120 species, several of which are cultivated: Acampe, a genus of about fifteen species, mostly Indo-Malayan, with two or three outlying species in Tropical Africa and a few others in Madagascar; Sarcanthus, chiefly Indo-Malayan and Chinese, with about seventy species; Cleisostoma, Indo-Malayan, and Australian, with about sixty species; Ornithochilus, an Indo-Chinese monotype; Tæniophyllum, a remarkable genus of about forty Indian, Malayan, and Polynesian species, nearly allied to Saccolabium but characterised by their leafless habit; Diplocentrum, with two or three Indian species, and much resembling Saccolabium, but characterised by the double spur, and three or four other very small genera which are unknown or rarely seen in cultivation. The species abound in the great Malayan region, and many have recently been described.

The African genera are as follows: Angræcum, widely diffused in Africa and the Mascarene Islands, with an outlying Philippine representative and another in China and Japan, and containing about 100 species, several being well known in cultivation; Listrostachys, African and Mascarene, and containing about eighty species; Mystacidium, with about fifty species, and an outlying representative in Ceylon; Æonia, with about five species, found in Madagascar and Mauritius, and Cryptopus, containing but a single Mascarene species.

The two American genera are Campylocentrum, ranging from South Mexico to South Brazil and Paraquay, and containing about thirty species, and Dendrophylax, a leafless Angræcum-like genus of five species, found in the West Indies and Florida. One species of the latter, D. funalis, was formerly referred to Angræcum, and is figured in the *Botanical Magazine* under the name of A. funale (t. 4295).

This completes our sketch of the different groups of this remarkable family of plants, and it now remains to indicate the progressive sequence of the different organs, and some of the steps by which they have reached their present degree of complexity. This must be left for a concluding chapter.

R. A. ROLFE.

*(To be continued).*

## THE R.H.S. AND THE ROYAL INTERNATIONAL HORTICULTURAL EXHIBITION.

THE following correspondence has taken place between Sir Trevor Lawrence, President of the Royal Horticultural Society, and Mr. J. Gurney Fowler, Chairman of the Board of Directors of the International Exhibition :—

Royal Horticultural Society,
Vincent Square,
Westminster, S.W.,
June 5th, 1912.

Dear Mr. Gurney Fowler,—The Council of this Society, at their meeting yesterday, requested me to convey to you and your colleagues on the direction of the Royal International Horticultural Exhibition their hearty congratulations on the signal success with which the exhibition has been carried out. The Council's own experience makes them fully aware of the long-continued and unremitting labours attending exhibitions on even a much smaller scale ; and the success which has crowned your efforts cannot fail to be most gratifying to all concerned, and to reflect great credit on them. It is the universal opinion that a more complete and comprehensive, a better arranged, and more beautiful and instructive exhibition has never been seen in any country. No wonder, then, that it has received the fullest and most unstinted praise and admiration from their Majesties the King and Queen downwards.

The Council, moreover, are glad to understand that the financial results will probably show a satisfactory surplus and relieve the guarantors from all liability.

I am, yours very truly,
TREVOR LAWRENCE, President.

J. Gurney Fowler, Esq.

Glebelands, S. Woodford, Essex,
June 7th, 1912.

ROYAL INTERNATIONAL HORTICULTURAL EXHIBITION.

Dear Sir Trevor Lawrence,—Your letter of the 5th inst. has been received by me with the very greatest pleasure, and this pleasure will also, I am sure, be felt by all my colleagues on the Board when I communicate its contents to them.

For some two years now we have been, as you know, preparing for this exhibition, and it has caused to many of us much work, trouble, and, above all, anxiety. Now that is a thing of the past, a great load of responsibility, both financial and otherwise, has been lifted from us, and we are able to return to our ordinary work with the satisfactory feeling that our efforts have met with your Society's appreciation, also with that of their Majesties the King and Queen and of the general public, and have resulted also, as you say, in a signal success.

This fact is an all-sufficient recompense for our many labours, and I hope most sincerely that the exhibition will result in the advancement of horticulture in all its branches. This has been, and is, my constant endeavour.

It is early yet to talk about the financial results, but, so far as we can see, there is little likelihood of any call upon the guarantors, by whose generous support we were so greatly encouraged and assisted. We look forward to having eventually a considerable sum in hand to distribute to gardening charities or otherwise as we may be advised.

Thanking you for your letter, believe me to remain,

Yours most sincerely,

J. GURNEY FOWLER, Chairman.

Sir Trevor Lawrence, Bart.

## EPIDENDRUM TRIPUNCTATUM.

THIS very rare and interesting Epidendrum has re-appeared in cultivation, a plant having been sent to Kew for determination by Mr. S. Flory, Orchid Nursery, Twickenham. It is said to have appeared in an importation of Cattleya citrina. It was originally described by Lindley, in 1841 (*Bot. Reg.*, xxvii., Misc. p. 66), from a plant which flowered in the collection of R. Harrison, Esq., Aigburth, near Liverpool. It is a member of the Encyclium section, and was placed in a small group called by Lindley Holochila, on account of the entire or nearly entire lip. The pseudobulbs are clustered, and bear at the apex one or two linear leaves, some four to seven inches long, and short, one or two-flowered inflorescences. The flowers are about 1¼ inches across, and have rather narrow greenish-yellow sepals and petals, and an obovate-elliptic, obscurely three-lobed white lip, which is slightly adnate to the base of the purple column. The column bears a short obtuse apiculus, and two small wings, each being tipped with orange-yellow, giving the appearance of three small spots, in allusion to which the specific name was given. According to Reichenbach plants of it were afterwards introduced from Mexico by Messrs. Backhouse & Son, York, in 1881 (*Gard. Chron.*, 1881, ii. p. 38). Mr. Flory's plant agrees exactly with the original type in the Lindley Herbarium. Its re-appearance is interesting.—R.A.R.

## MILTONIA VEXILLARIA VAR. SNOWFLAKE.

Fig. 29. MILTONIA VEXILLARIA VAR. SNOWFLAKE.

THE annexed figure represents the very beautiful specimen of Miltonia vexillaria var. Snowflake, which was exhibited by Lt.-Col. Sir George L.

Holford, K.C.V.O., Westonbirt, at the R.H.S. meeting held on June 4th last, and to which a First-class Certificate was given, also a Cultural Commendation to Mr. Alexander. The specimen bore thirteen spikes and an aggregate of 73 flowers, which are pure white, with some light yellow markings at the base of the lip. It is indeed a charming specimen, as can be seen from the illustration, for which we are indebted to the Editor of the *Journal of Horticulture*. The variety received an Award of Merit two years ago (*O.R.*, xviii. p. 218).

## CALENDAR OF OPERATIONS FOR JULY.

By J. T. BARKER, The West Hill Gardens, Hessle, E. Yorks.

THE conditions of temperatures, watering, ventilation, and atmospheric moisture laid down last month, and fully described in May, are also applicable to the present one. Owing to a period of dull, wet, and sunless weather, we have had to keep a certain amount of heat in the pipes in all the houses, with the exception of the Odontoglossum house. This is always necessary, as a damp stagnant atmosphere is harmful at any time.

CYPRIPEDIUMS.—The warm-growing species of this genus, which comprise C. Rothschildianum, C. Stonei, C. Sanderianum, and other similar kinds, with the hybrids raised from them, require the temperature of the warmest house, and must receive liberal treatment at all times. The present is a most suitable time to undertake a general overhauling of the plants, with a view to the providing of new rooting material to the specimens that are in need of it. The drainage must be perfect, and the compost as advised for the winter-flowering varieties, will satisfy their requirements. As each variety of these useful plants passes out of flower, it should be taken in hand, and when all are done, thoroughly cleaned, and put in a position where they can be shaded from strong sunshine. Water may be given directly after the repotting, to settle the compost around the roots, but care must be used in the application of water afterwards, until the new roots are moving through the compost. When established, copious supplies must be given, especially when in active growth. Light sprayings overhead with soft, tepid water, when the weather is favourable, are beneficial. Cypripediums thrive in plenty of atmospheric moisture, and are very rarely attacked with thrip and other insect pests where it is supplied, although, where the opposite conditions prevail, they are then to be found in legions. C. Lawrenceanum, and its variety Hyeanum, C. callosum and its variety Sanderæ, grow better at the warm end of the Intermediate house, but care must be taken that the position is not too dry.

C. BELLATULUM.—The C. bellatulum section is one which a great many people fail to grow successfully, and retain in a healthy condition over a

series of years. The plants succeed best when grown close up to the roof glass, where they are free from drip, and out of the way of the syringe, and a warm, moist atmosphere is necessary to their well being. During the growing season they must have liberal supplies of water at the root, but during the winter, when they are at rest, much less will suffice, although they must not be allowed to suffer for the want of it even then. Watering overhead is not to be recommended, and, in most cases, is decidedly harmful. The most suitable time for repotting these plants is soon after the plants have passed out of flower, but disturbance at the roots should not take place unless the condition of the compost and drainage make this necessary. For compost use a mixture similar to that advised above, but a little more loam fibre may be added.

CATTLEYAS and LÆLIAS.—The flowers of these most beautiful Orchids may now be enjoyed the whole year round, and among the late spring and early summer-flowering species and hybrids are some of the most lovely kinds imaginable. Plants that have flowered and have since enjoyed a short period of rest, will now be showing signs of activity, either by making fresh roots or growths. The condition of these plants at the roots should be ascertained, and if any are in need of fresh rooting material it should be supplied to them before the new roots and growths get very far advanced, thus avoiding injury to either. The method of repotting this class of plants has been explained in previous numbers, and there is no need to repeat it, and the same remarks apply also to compost for them. The whole of this family should be potted moderately firmly, as when this is done the compost lasts much longer, and the water passes through much better than it does when they are potted loosely. Late summer and autumn-flowering Cattleyas are now growing freely, and some are forming their pseudobulbs, and must have liberal treatment. The majority of these plants produce their flower spikes before the season's growths are completed, therefore they should not be allowed to suffer for want of water at the roots until the newly-made pseudobulbs are fully developed. Newly-potted plants require careful watering, only just sufficient water to keep the new materials in a moist condition being necessary.

LEPTOTES BICOLOR.—At the present time the plants of this pretty terete-leaved species are making fresh roots, and repotting may be done, if necessary. It succeeds suspended in the Cattleya house, and is best grown in shallow pans, in the same kind of compost as Cattleyas, and the plants should be potted quite firmly. During active growth the plants must have liberal supplies of water, but when growth is completed the amount should be gradually reduced, and during the resting season only sufficient to keep the plant from shrivelling should be given.

CATASETUMS and CYCNOCHES thoroughly enjoy the warmth of the sun,

and as much light as it is possible to afford them without scorching the young foliage. Both species are now rooting freely and making considerable progress with their new growth in the warmest house. They require to be examined every day, so that the best rooted plants, and those which are pushing up flower spikes, may be supplied with water whenever they require it. Water should not be allowed to lodge in the centres of the young growths, and the whole plant should be carefully examined from time to time for insect pests.

PHAIUS.—The different sorts of Phaius, species and hybrids, may at this season be repotted if they are in need of it. They will root well, and grow satisfactorily in the compost as advised for Calanthes, and they may be potted in the same manner. During their season of growth a decidedly moist atmosphere should be maintained by damping between the pots and stages several times daily. Should the points of the leaves become black, more air should be given, and the amount of moisture should be reduced.

TRICHOPILIAS.—T. suavis, and its lovely variety alba, also T. Backhouseana, T. marginata, and several others, will now be forming new growths, and when these are about to push roots is the best time to do any repotting. They are best grown in the Intermediate or Cattleya house, suspended from the roof, where they can be shaded from the sun. They will succeed in the same compost as Odontoglossums, grown in baskets or shallow pans, and it is always advisable to be careful in the matter of watering, as, should they get an over supply, it is liable to cause the pseudobulbs to become badly spotted, which frequently means the loss of the plant. Care should be taken with the whole of this genus that the roots are kept in a sweet and healthy condition, therefore, if the compost is at all decayed it should be renewed at the proper period. These Orchids are not grown as much as their beauty deserves.

THUNIAS, by this time, will have finished blooming, and should be removed to a sunny and airy house, and any that have not bloomed may have the apex of the growths pulled out. They must have water whenever they require it, and an occasional watering with weak liquid manure will be beneficial. They should be syringed on bright days to prevent attacks of red spider, which is very partial to them at this season, and they should on no account be put away to take care of themselves. As soon as the whole of the leaves fall away water can be entirely withheld.

PHALÆNOPSIS.—Plants which were repotted early in the season will by now be well established and rooting freely in the new compost, therefore they may have an increased supply of moisture at the roots, but care must be taken that it is not overdone. Every inducement should be given the plants to make their growths quickly, and, at the same time, that growth must be consolidated as it is made. The house should be ventilated freely,

whenever the weather and outside conditions are favourable, and the house may be closed and the blinds drawn up about an hour before the sun ceases to shine on the roof. A moist humid atmosphere must be maintained at all times during the growing season, but overhead spraying or syringing is not to be recommended, as, if done injudiciously, much harm can accrue.

PALUMBINA CANDIDA grows and blooms freely when suspended in shallow pans in the Intermediate house.

MASDEVALLIA TOVARENSIS.—This pure white Masdevallia, with the others which were potted in the spring, will now have recovered from their disturbance, and be making new leaves. They may have water afforded them whenever they become dry, but care should be taken that they become so between each application. A moderately shady position answers their requirements much better than a more exposed one, and plants grow stronger in the former than the latter position.

ODONTOGLOSSUMS.—O. grande, O. Insleayi, and O. Schlieperianum are all easy Orchids to grow, and require a temperature a little above the Cool house, and are best accommodated in a cool Intermediate house. They are a little irregular in their blooming season, especially the two latter, but if the plants are healthy and strong they are usually at their best about this season, and the blossoms, if kept dry, remain in perfection for a considerable time, and no harm will accrue by allowing the flowers to remain on the plants. The young growths are produced early in summer, according to the different species, but new roots are not produced until the growths have become a considerable size, and have begun to form pseudobulbs. The older roots being active, the plants may, if necessary, be repotted when the young growths are a few inches high. When repotting is necessary, it should be done thoroughly, all the old sour material being carefully removed from the roots, and the plants replaced in a compost as previously advised for other Odontoglossums. As these Odontoglossums have thick fleshy roots, the compost should be used in a rough condition, and not pressed too firmly. Like all other newly-potted plants, water must be supplied carefully for some time, and none must be allowed to lodge in the young growths, or they may damp off. During active growth they appreciate a liberal supply of water right up to the time when they have completed their pseudobulbs, and then sufficient must be given them to prevent shrivelling. These Odontoglossums delight in a light position with a free circulation of air at all times, but must be shaded from strong sunshine. Insects are very fond of them, especially woodlice and small snails, also the different species of scale, therefore preventive measures must be taken.

O. CITROSMUM will succeed under the same conditions as those previously mentioned, except that this is best grown suspended, and the others succeed best grown in pots on the stage. All the species of this

section of Odontoglossum resent being disturbed at the root, and, therefore, every means possible should be taken to induce the plants to re-establish themselves quickly. They should have new rooting material afforded them, if necessary, immediately they have passed out of flower.

GENERAL REMARKS.—The work for the month will be a great deal like that of the previous one. Potting, watering, and the cleaning of the plants always take up much time, and the ventilation and shading of the houses and the maintenance of the proper temperatures, with a sufficiency of atmospheric moisture, will comprise the general routine of work. In everything taken in hand let it be done thoroughly, as, to be effectual, it must be done well.

## SOCIETIES.

### ROYAL HORTICULTURAL.

A MEETING was held at the Royal Horticultural Hall, Vincent Square, Westminster, on June 4th, when there was a very fine display of Orchids, including ten medal groups, other awards being one First-class Certificate, four Awards of Merit, and two Cultural Commendations.

Orchid Committee present: Sir Harry J. Veitch (in the Chair), and Messrs. Gurney Wilson, R. G. Thwaites, F. Sander, F. J. Hanbury, A. A. McBean, Walter Cobb, J. Cypher, W. H. Hatcher, J. E. Shill, H. G. Alexander, A. Dye, W. H. White, J. Wilson Potter, W. Bolton, de Barri Crawshay, and C. J. Lucas.

Lt.-Col. Sir George L. Holford, K.C.V.O., Westonbirt (gr. Mr. H. G. Alexander), staged a remarkably fine group of specimen plants, to which a Gold Medal was awarded. It contained eight fine specimens of Miltonia vexillaria Empress Augusta Victoria, bearing an aggregate of 225 flowers, and other profusely-flowered forms, a good Oncidium divaricatum, some well-flowered specimens of Dendrobium Euterpe, chrysotoxum and capillipes, Cattleya Warscewiczii with five fine spikes, C. Mossiæ Wageneri Westonbirt var., and some fine C. Mendelii, good examples of Læliocattleya Canhamiana with twenty-five and thirty flowers, L.-c. Martinetii The Prince, a magnificent variety, L.-c. Aphrodite, L.-c. luminosa Canary Bird, and Odontoglossum armainvillierense xanthotes Westonbirt var.

H. F. Goodson, Esq., Fairlawn, Putney (gr. Mr. G. Day), was awarded a Silver-gilt Flora Medal for a fine group, including some excellent varieties of Miltonia vexillaria, the fine Brassocatlælia Veitchii, Cattleya Mendelii H. A. Tracy, Odontiodas, Masdevallias, Odontoglossum Goodsonii with a spike of twelve flowers, O. eximium Leopoldii, O. Lambeauianum St. David, the remarkable O. crispum Lady Jane, and other good forms of O. crispum.

W. Waters Butler, Esq., Southfield, Norfolk Road, Edgbaston (gr. Mr.

Jones), exhibited a good form of Læliocattleya luminosa, having amber yellow flowers with some purple veining on the lip, and Cattleya Mendelii The Queen, having seven pure white flowers with a pale rose tinge on the front of the lip.

Walter Cobb, Esq., Normanhurst, Rusper (gr. Mr. Salter), sent Odontoglossum Leonard Cobb, bearing a spike of eleven flowers, handsomely blotched with claret purple.

De Barri Crawshay, Esq., Rosefield, Sevenoaks (gr. Mr. Stables), exhibited Odontioda Carmen (C. Nœtzliana × O. apterum), the handsome O. rosefieldiensis with four spikes and thirty-four flowers, O. Devossiana with a fine panicle, and a good plant of Odontoglossum Leonidas (Cooksonii × triumphans).

E. de Quincey, Esq., Oakwood, Chislehurst (gr. Mr. G. B. Lees), sent a good form of Odontoglossum Fascinator.

Messrs. Charlesworth & Co., Haywards Heath, staged a fine group, the centre being made up of Phalænopsis amabilis and brilliant Odontiodas, other noteworthy things being Sobralia Cliftonii, some good examples of Trichopilia Backhouseana, Bulbophyllum virescens, Læliocattleya Aphrodite, Canhamiana, and Fascinator, some good Miltonias, Cattleya Mossiæ Wageneri and a beautiful series of Odontoglossum hybrids (Silver Flora Medal).

Messrs. Sander & Sons, St. Albans, also staged a very fine group, including a beautiful Cattleya Mendelii alba, some good examples of Lælia purpurata, Dendrobium superbiens, Oncidium macranthum, Thunia Veitchii, many beautiful Odontoglossums and Odontiodas, Maxillaria Sanderiana, Ornithocephalus grandiflorus, and others (Silver Flora Medal).

Messrs. Hassall & Co., Southgate, staged a choice group, including Anguloa Clowesii, Cattleya Mendelii, C. Warscewiczii, and some good C. Mossiæ, noteworthy among the latter being C. M. Reineckeana vestalis (Silver Banksian Medal).

Messrs. J. & A. A. McBean, Cooksbridge, staged a pretty group, including some good Miltonia vexillaria, the rare M. Phalænopsis, M. Bleuana, and a good hybrid between M. Bleuana and M. Hyeana (Silver Banksian Medal).

Mr. S. Flory, Orchid Nursery, Twickenham, staged an interesting little group, including some good forms of Cattleya Mossiæ and Mendelii, Disa Luna, Liparis Ugandæ, and some good Odontoglossums and Dendrobiums (Bronze Banksian Medal).

Mr. A. W. Jensen, Lindfield, Haywards Heath, staged a small group of Cattleya Mossiæ, Mendelii, and Odontoglossum crispum (Bronze Banksian Medal).

The Liverpool Orchid Nursery Co., Gateacre, staged a pretty group,

including Læliocattleya Dominiana, L.-c. Cowanii (L. cinnabrosa × C. Mossiæ), and a pretty hybrid between C. Mendelii and L. Jongheana (Bronze Banksian Medal).

Messrs. Stuart Low & Co., Enfield, staged a pretty little group, including Dendrobium thyrsiflorum and pulchellum, Vanda teres, Renanthera Imschootiana, Læliocattleya Canhamiana, Cattleya Mossiæ, Miltonia vexillaria, and Cypripediam Maudiæ (Bronze Banksian Medal).

### FIRST-CLASS CERTIFICATE.

MILTONIA VEXILLARIA SNOWFLAKE.—A large and very beautiful white variety.—Exhibited by Lieut.-Col. Sir George L. Holford.

### AWARDS OF MERIT.

DENDROBIUM GOLDIEI.—A handsome Australian plant, bearing terminal spikes of deep rose-purple flowers.—Exhibited by Messrs. Sander & Sons.

LÆLIOCATTLEYA APHRODITE COWAN'S VAR.—A very fine form, having white flowers and the front of the lip purple.—Exhibited by the Liverpool Orchid Nursery Co.

ODONTOGLOSSUM LAMBEAUIANUM PRINCESS MARY.—A beautiful white variety, with violet-purple blotches on the lip.—Exhibited by H. F. Goodson, Esq.

ODONTOGLOSSUM THAIS GLEBE VAR.—A fine hybrid bearing a spike of nineteen flowers, handsomely blotched with reddish purple.—Exhibited by C. G. Phillips, Esq., The Glebe, Sevenoaks (gr. Mr. R. J. Bucknell).

### CULTURAL COMMENDATIONS.

CŒLOGYNE PANDURATA.—To Messrs. Armstrong & Brown, Tunbridge Wells, for a very fine plant, bearing a spike of sixteen flowers.

MILTONIA VEXILLARIA SNOWFAKE.—To Mr. H. G. Alexander, gr. to Lieut.-Col. Sir George L. Holford, for a beautiful specimen, bearing thirteen spikes and an aggregate of seventy-three flowers (See p. 209, fig. 29).

---

At the meeting held on June 18th there was a moderate display of Orchids, including six medal groups, other awards consisting of two First-class Certificates and three Awards of Merit.

Orchid Committee present: J. Gurney Fowler, Esq., in the Chair, and Messrs. R. A. Rolfe, Gurney Wilson, J. Wilson Potter, F. Sander, F. J. Hanbury, T. Armstrong, A. McBean, W. Cobb, J. Charlesworth, J. E. Shill, H. G. Alexander, W. P. Bound, Arthur Dye, W. H. White, Clive Cookson, W. Bolton, C. J. Lucas, Stuart H. Low, J. S. Moss, C. H. Curtis, and de Barri Crawshay.

E. H. Davidson, Esq., Borlases, Twyford (gr. Mr. Cooper), staged a good group, including Cattleya Mossiæ, Mendelii, and Warscewiczii, Læliocattleya Aphrodite Borlases var., with white sepals and petals, and a very dark lip, Odontoglossum hibernicum, good forms of O. eximium,

O. Aireworth, and several other handsome things (Silver Flora Medal).

R. G. Thwaites, Esq., Streatham (gr. Mr. J. M. Black), staged a very pretty group of plants, mostly raised in the collection, including about thirty Odontiodas, the majority being scarlet, with a richly-coloured form of O. Thwaitesii, and O. Rolfei, a curious hybrid from C. vulcanica and O. Hunnewellianum, nine seedlings of Cattleya Mossiæ Wageneri which have come true from seed, a few Miltonia vexillaria, Odontoglossum Clytie, three promising seedlings from Odontoglossum Vuylstekei × Rolfeæ, O. percultum × Vuylstekei, and O. armainvillierense × crispum Boltonii, with a few others (Silver Flora Medal).

W. Waters Butler, Esq., Southfield, Edgbaston (gr. Mr. Jones), sent Læliocattleya Martinetii Southfield var. (L. tenebrosa × C. Mossiæ Reineckeana), a very pretty form, having lemon yellow sepals and petals, and a light coloured lip, with some purple in the throat.

H. F. Goodson, Esq., Fairlawn, Putney (gr. Mr. Day), sent Odontoglossum Eleanor, Odontoglossum crispo-Wiganianum, a bright yellow flower, O. percultum Clarksonii, a fine form, heavily blotched with claret-purple, and two nice plants of Odontoglossum Goodsoniæ.

Messrs. Sander & Sons, St. Albans, staged a very fine group, including some handsome plants of Cattleya Warscewiczii Sanderiana, the beautiful white C. Madame Myra Peeters, and C. Mossiæ Wageneri, some good forms of Læliocattleya Canhamiana, Martinetii, Fascinator, and L.-c. Kathleen Grey (L. tenebrosa × L.-c. Canhamiana), Dendrobium regium, Goldiei, Dearei, and Sanderæ, with a well-flowered Lycaste peruviana, Cœlogyne aspersa alba, a very beautiful albino with cream white flowers, some good forms of Miltonia vexillaria, the variety Sanderæ, with M. v. chelseiensis for one parent, having the sepals and petals tinged with purple, good plants of Anguloa Ruckeri and virginalis, forms of Eulophia squalida, Oncidium pulchellum, Epidendrum patens, Odontoglossum cirrhosum × armainvillierense, a charming thing, Sarcopodium cymbidioides, and many other good things (Silver-gilt Flora Medal).

Messrs. Stuart Low & Co., Bush Hill Park, staged a good group, including plants of Oncidium macranthum, leucochilum, and others, Odontoglossum Williamsianum, Dendrobium densiflorum and D. formosum, Miltonia vexillaria and Bleuana, Renanthera Imschootiana, Odontioda Bradshawiæ and Charlesworthii, Lælia tenebrosa, Brassolælia Jessopii, Epidendrum pentotes, Læliocattleya Haroldiana and Martinetii, Cattleya Warscewiczii, and others (Silver Flora Medal).

Messrs. Charlesworth & Co., Haywards Heath, staged a very interesting little group, including the rare Vanda Charlesworthii, Cleisostoma crassifolium, Odontoglossum citrosmum and a beautiful example of O. c. roseum, some good Trichopilia tortilis, one having thirteen flowers,

Dendrobium Sanderæ and Dearei, Cattleya Mossiæ Wageneri and C. Warscewiczii, Oncidium auriferum, Bulbophyllum Lobbii, and others (Bronze Banksian Medal).

The Liverpool Horticultural Co., Gateacre, staged an interesting group, including some good Cypripedium bellatulum, Læliocattleya Canhamiana, forms of the variable L.-c. Cowanii, and a richly coloured hybrid from L. Jongheana and C. Schilleriana (Bronze Banksian Medal).

Mr. E. V. Low, Vale Bridge, Haywards Heath, staged an interesting group, including Cœlogyne burfordiensis, Brassocattleya Corona (C. Schilleriana × B. Digbyana), with a strongly three-lobed and deeply fringed lip, which is regularly lined with brown, Lælia xanthina × Cattleya intermedia alba, Oncidium Mantinii Low's var., the chaste Cattleya Harrisoniana alba, and some other good Cattleyas.

Mr. W. A. Manda, St. Albans, sent a plant called Cattleya gigas Mandaiana, but from some yellow veining in the lip, we consider it to be a form of Cattleya Hardyana.

M. A. Mertens, Ghent, sent a few Odontiodas and Odontoglossums.

### FIRST-CLASS CERTIFICATES.

LÆLIOCATTLEYA BARONESS EMMA (L.-c. eximia × C. Hardyana).—A magnificent hybrid, the flower being large and of excellent shape, and having blush white sepals and petals, tinged with pink, and the lip very broad, rich purple-crimson in front, and the throat whitish yellow, with purple lines. Exhibited by Baron Bruno Schröder, The Dell, Egham (gr. Mr. J. E. Shill).

ODONTIODA COOKSONIÆ FOWLER'S VAR. (C. Nœtzliana × O. armainvillierense).—A remarkably fine and handsome hybrid, having broad crimson red sepals and petals, narrowly margined with white, and the lip crimson with a broader white margin, the crest light yellow, and the front lobe white. Exhibited by Messrs. Charlesworth & Co.

### AWARDS OF MERIT.

LÆLIOCATTLEYA GANYMEDE SOUTHFIELD VAR. (L. Latona × C. Schrœderæ).—A neat and brilliantly-coloured flower, having bright chrome yellow sepals and petals and an undulate ruby crimson lip. Exhibited by W. Waters Butler, Esq.

MILTONIA BLEUANA RISING SUN.—A large and beautiful white variety, with a brownish orange ray-like blotch at the base of the lip. Exhibited by Baron Bruno Schröder.

ODONTONIA ST.-ALBAN (Miltonia Warscewiczii × Odontoglossum Pescatorei).—A striking hybrid, bearing a panicle of flowers, most like the Miltonia parent in general character, but modified in shape, and the sepals and petals reddish purple, margined with white, while the broad, rounded lip is similar in colour.

### MANCHESTER AND NORTH OF ENGLAND ORCHID.

A MEETING was held at the Coal Exchange, Manchester, on Thursday, May 16th, when the members of Committee present were: Rev. J. Crombleholme (in the Chair), Messrs. R. Ashworth, J. Bamber, C. Parker, H. Thorp, Z. A. Ward, J. C. Cowan, J. Evans, W. Holmes, A. J. Keeling, D. McLeod, and H. Arthur (Secretary).

A. Warburton, Esq., Haslingden (gr. Mr. Dalgleish), was awarded a Silver-gilt Medal for a choice group of Odontoglossums, varieties and hybrids, including O. crispum var. Perfection, Hopher, Kathleen, and Golden Queen, O. ardentissimum, O. eximium, and Odontioda Cooksoniæ.

Col. J. Rutherford, M.P., Blackburn (gr. Mr. Lupton), was awarded a Silver Medal for a choice group, including several varieties of Cattleya Mendelii, C. Skinneri, C. S. alba, C. intermedia alba, Brassocattleya Maronii, Brassocatlælia Purity, Læliocattleya Fascinator, and others.

Z. A. Ward, Esq., Northenden (gr. Mr. Weatherby), was awarded a Silver Medal for a meritorious group of well-grown Odontoglossums, including several good varieties of O. crispum, hybrids of O. Harryanum, O. triumphans, and others, being very fine and too numerous to mention.

J. McCartney, Esq., Bolton (gr. Mr. Holmes), was awarded a Silver Medal for a nice exhibit of Cattleyas, including C. Mendelii Excelsior and Grahame White, C. Mossiæ in variety, with C. Dowiana aurea, C. Schrœderæ, and a good plant of Miltonia Bleuana.

H. Thorp, Esq., Rhodes, was awarded a Silver Medal for a group, composed principally of Odontoglossums of the crispum section, and several plants of Lælia purpurata alba and Cattleya Skinneri.

J. J. Holden, Esq., Southport (gr. Mr. Johnson), staged Cattleya Dusseldorfii var. Undine, Brassocattleya Marie, and Odontoglossum Archie Neill.

W. R. Lee, Esq., Plumpton Hall, sent Cattleya Mossiæ Reineckeana, and two other good things which are mentioned under Awards.

Rev. J. Crombleholme, Clayton-le-Moors (gr. Mr. Marshall), sent Cypripedium Muriel Hollington and C. Wottonii carminosum.

Messrs. Hassall & Co., Southgate, were awarded a Silver Medal for a choice group, Odontoglossum crispum, with O. Rolfeæ, and other hybrids, Læliocattleya Fascinator Olivia, several good forms of Cattleya Mossiæ, C. Walkeriana, Odontioda Charlesworthii, O. chelseiensis, and several plants of the pretty Oncidium pulchellum.

Messrs. Keeling & Sons, Bradford, staged Oncidium curtum and pulchellum, with three good forms of Cypripedium bellatulum.

Mr. J. Birchenall, Alderley Edge, staged forms of Cattleya Mossiæ and Mendelii.

Mr. J. Evans, Congleton, sent varieties of Cattleya Mossiæ.

FIRST-CLASS CERTIFICATE.

Brassocattleya Veitchii var. Luptonii (C. Mossiæ Reineckeana × B. Digbyana), a huge flower of even colour and well balanced; from Col. J. Rutherford, M.P.

AWARDS OF MERIT.

Brassocatlælia beardwoodensis (L. c. Violetta × B. Digbyana); from Col. J. Rutherford.

Odontoglossum Wilckeanum var. plumptonense, and Cypripedium Annie Measures var. Diabolus; both from W. R. Lee, Esq.

Cypripedium hortonense (Victor × Beeckmanii); from F. A. Hindley, Esq., Bradford.

---

At the meeting held on Thursday, June 6th, the members of the Committee present were:—Rev. J. Crombleholme (in the Chair), Messrs. R. Ashworth, J. Bamber, J. C. Cowan, J. Cypher, J. Evans, W. Holmes, A. J. Keeling, D. McLeod, C. Parker, F. K. Sander, Z. A. Ward, A. Warburton, and H. Arthur (Secretary).

Owing to the short time at the disposal of the Committee, the Annual Meeting being announced to commence at 2.30, only a brief reference to the exhibits can be made, which were as follows:—

Silver-gilt Medals were awarded to Col. J. Rutherford, M.P., Beardwood, Blackburn (gr. Mr. Lupton); A. Warburton, Esq., Haslingden (gr. Mr. Dalgleish); and Messrs. Charlesworth & Co., Haywards Heath.

Silver Medals to Mrs. Wood, Glossop (gr. Mr. Gould); Z. A. Ward, Esq., Northenden (gr. Mr. Weatherby); J. McCartney, Esq., Bolton (gr. Mr. Holmes); Messrs. Hassall & Co., Southgate; and the Liverpool Orchid & Nursery Co. (Cowans), Gateacre.

Votes of Thanks to O. O. Wrigley, Esq., Bury; W. R. Lee, Esq., Heywood; R. le Doux, Esq., West Derby; and Mr. J. Birchenall, Alderley Edge.

FIRST-CLASS CERTIFICATE.

Odontoglossum Queen Mary (Vuylstekei × eximium); from W. R. Lee, Esq.

AWARDS OF MERIT.

Odontoglossum crispum White Star and O. c. White Queen; from W. R. Lee, Esq.

Aërides Houlletianum magnificum; from Mrs. Wood.

Læliocattleya Martinetii var. John Lupton; from Col. J. Rutherford, M.P.

Cattleya Cowanii magnifica Marlfield var. and Odontoglossum Mrs. Carlisle; from R. le Doux, Esq.

At the Annual Meeting the Balance Sheet was adopted. The Rev. J. Crombleholme was re-appointed Chairman, with Z. A. Ward, Esq., Vice-Chairman ; R. Ashworth, Esq., Hon. Treasurer : H. Thorp, Esq., Hon. Auditor ; and H. Arthur, Secretary. A Committee was elected, and a President, along with a number of Vice-Presidents were invited. The prizes were presented to the successful exhibitors as follows :—

Robson's Gold Cup (presented by the Exors. of the late Mr. John Robson) to W. R. Lee, Esq. (gr. Mr. Branch).

W. R. Lee's Silver Trophy to Z. A. Ward, Esq. (gr. Mr. Weatherby).

W. R. Lee's Gold Medal to J. McCartney, Esq. (gr. Mr. Holmes).

Cypher's Gold Medal (presented by Messrs. J. Cypher & Sons), to Z. A. Ward, Esq.

"Sander" Prizes, Mr. Lupton (gr. to Col. J. Rutherford, M.P.), and Mr. Weatherby (gr. to Z. A. Ward, Esq.), equal Firsts, and Mr. Holmes (gr. to J. McCartney, Esq.), Third.

Ed. V. Low's Silver Vase, to J. J. Holden, Esq. (gr. Mr. Johnson).

Stuart Low's Prizes, to J. McCartney, Esq. (gr. Mr. Holmes).

Society's Gold Medal (Amateurs), to G. H. Peace, Esq., Monton Grange (gr. Mr. Mace) ; Silver-gilt, to A. Warburton, Esq. (gr. Mr. Dalgleish) ; Gold Medal (Amateur without gardener), to W. J. Hargreaves, Esq., Burnley : Silver-gilt, to F. A. Hindley, Esq., Bradford ; Silver, to H. Arthur, Esq.

A Gold Medal (given by a member of the Society) was presented to the Rev. J. Crombleholme, for his meritorious exhibits during the session.

Several Prizes were offered for competition during the coming session, due notice of which will be given.

---

## ORCHIDS AT THE YORKSHIRE GALA.

ORCHID exhibits at this old-established show, both competitive and non-competitive, well maintained the standard of previous years, and in very few cases have they been excelled.

The principal class was for a table 12 feet by 5 feet, arranged for effect, the inclusion of cut blooms in glasses or baskets being permitted, the object being to produce an effective display. The first prize was awarded to a most effective and pleasing display put up by Messrs. J. Cypher & Sons, Cheltenham, which contained a wide range of decorative Orchids, such as Brassia verrucosa, Oncidiums, Odontoglossums, Cattleyas, Læliocattleyas, Miltonias, and many other species. Messrs. Mansell & Hatcher was placed second, with a most pleasing arrangement of plants alone, no attempt being made to add to its effectiveness by the addition of cut flowers. Renanthera Imschootiana was intermingled with white Odontoglossums, Cattleya Warscewiczii, C. Mossiæ, Læliocattleyas, Miltonias, and

Oncidiums, beside many other species, and made a most attractive exhibit, which would have taken the first prize at a great many shows in the country. Messrs. Hassall & Co., Southgate, were awarded the third prize, exhibiting Cattleya Mossiæ in great variety, with Odontioda Charlesworthii, Cypripedium niveum, and many other species in good form.

In a class for ten Orchids (open), Messrs. J. Cypher & Sons were again placed first, with fine examples of Cypripedium Curtisii, Phalænopsis amabilis Rimestadiana, Vanda teres, Læliocattleya Aphrodite, Miltonia vexillaria, and others. The second prize in this class was awarded to W. P. Burkinshaw, Esq., Hessle, Hull (gr. Mr. J. T. Barker), with fine examples of Læliocattleya Fascinator, Lælia tenebrosa Walton Grange var., Cattleya Warscewiczii, Miltonia vexillaria, and others. Messrs. Hassall & Co. were placed third, and amongst the plants exhibited was a fine Odontoglossum Thompsonianum.

The competition in the class for six Orchids (open) was exceptionally keen, Mr. Burkinshaw in this case being placed first, with fine specimens of Renanthera Imschootiana, Cypripedium Shillianum, Cattleya Mossiæ, Læliocattleya Fascinator, Miltonia vexillaria, especially good, and others. Messrs. J. Cypher & Sons were placed second, their best plants being Læliocattleya Canhamiana, L.-c. Kraenzlinii, Cattleya Whitei, and Renanthera Imschootiana. The third prize here again fell to Messrs. Hassall & Co.

In a class for three Orchids (open), the first prize was again awarded to Messrs. J. Cypher & Sons, who had Læliocattleya Aphrodite, very fine, Mr. Burkinshaw being placed second, with Cattleya Mossiæ Reineckeana and intertexta alba as his best plants. Messrs. Hassall here again were third.

In a class for a single specimen of a New or Rare Orchid, Mr. Burkinshaw was placed first for his beautiful Miltonia Bleuana Hessle variety, with two spikes; Messrs. J. Cypher & Sons being placed second with a fine form of Odontoglossum percultum.

The whole of the first prizes, confined to amateurs or gentlemen's gardeners, in three classes, namely, for six, three, and single specimens were awarded to Mr. Burkinshaw, whose single specimen was a fine plant and variety of Cattleya Mossiæ alba.

Amongst the non-competitive exhibits Messrs. Sander & Sons, St. Albans, were awarded the Gold Medal for a fine group of Orchids, composed of Læliocattleyas in variety, Cattleya Warscewiczii Sanderiana (very fine), C. Mossiæ Wageneri, Dendrobium Dearei, D. superbiens, and many others, Miltonia vexillaria Lambeauiana being a fine specimen of this chaste Miltonia.

Messrs. Charlesworth & Co., Haywards Heath, were awarded a Large

Silver-gilt Medal for a choice selection of Orchids, in which Læliocattleya Canhamiana alba, L.-c. Cecilia, Cattleya Mossiæ Wageneri, C. M. Reineckeana, and Odontoglossum Aireworth were most conspicuous.

Messrs. Mansell & Hatcher, Rawdon, E. Yorks, were awarded a Silver-gilt Medal for a choice group, which included many fine varieties of Læliocattleya Martinetii, L.-c. Eudora, Odontoglossums, Cattleyas, and Cypripediums.

Mr. J. E. Sadler, Newbury, showed Odontoglossums and Odontiodas in a setting of ferns, for which he was awarded a Silver Medal.

## CHINESE ORCHIDS.

A RECENT issue of *Notes from the Royal Botanic Garden, Edinburgh*, contains, under the title "Plantæ Chinenses Forrestianæ," an account of the Orchids discovered and collected by Mr. G. Forrest during his first exploration of Yunnan and Thibet in 1904, 1905, and 1906, by Dr. Schlechter (v. pp. 93-113, with nine plates). There are twenty-nine genera and about sixty-eight species, the majority being terrestrial, and chiefly of botanical interest. Ten new species are described and figured, namely, Herminium ophioglossoides and Forrestii, Habenaria diplonema, diceras, and Forrestii, Neottia grandiflora, Pleione Forrestii, Microstylis yunnanensis, Calanthe undulata, and Bulleya yunnanensis, the latter a curious new genus near to Pholidota but differing in having a spurred lip. Habenaria comes first in point of numbers with eight species, while Herminium has seven, Cypripedilum six, and Orchis and Pleione each five, the rest being smaller, and sixteen genera are only represented by a single species. The enumeration is from dried specimens collected by Mr. Forrest.

## ORCHID NOTES AND NEWS.

THE great Summer Show of the Royal Horticultural Society will be held on Tuesday, Wednesday, and Thursday, July 2nd, 3rd, and 4th, in the grounds of Holland House, Kensington. Silver Cups and Medals will be awarded according to merit. Judging commences at 10 a.m., and the Orchid Committee will meet at 10.30 a.m.

Two other meetings of the Royal Horticultural Society will be held during July at the Royal Horticultural Hall, Vincent Square, Westminster, on the 16th and 30th, when the Orchid Committee will meet at the usual hour, 12 o'clock noon.

The next meeting of the Manchester and North of England Orchid Society will be held at the Coal Exchange, Manchester, on July 11th. The Committee meets at noon, and the exhibits are open to inspection of members and the public from 1 to 4 p.m.

SIR DAVID PRAIN.—We note with pleasure that His Majesty the King has conferred the honour of knighthood on Lt.-Col. David Prain, F.R.S., who has for the past seven years been Director of the Royal Botanic Gardens, Kew, and whose name is well known in connection with Indian Orchidology.

## ORCHID PORTRAITS.

BRASSOCATTLEYA THE KING.—*Gard. Mag.*, June 1st, 1912, Suppl. p. 10, with fig.

LÆLIOCATTLEYA APHRODITE LORD FABER.—*Gard. Chron.*, 1912, i. p. 405, fig. 192.

LÆLIOCATTLEYA BEDOUIN.—*Gard. Mag.*, 1912, p. 431, with fig.

LÆLIOCATTLEYA LUSTRE LAVINGO.—*Gard. Chron.*, 1912, i. p. 373, fig. 180.

MILTONIA JULES HYE DE CROM.—*Gard. Chron.*, June 1st, 1912, Suppl. pp. xxi. xxv., fig. 19.

MILTONIA VEXILLARIA SNOWFLAKE.—*Gard. Chron.*, 1912, i. p. 400, fig. 191; *Gard. Mag.*, 1912, p. 445, with fig.; *Journ. Hort.*, 1912, i. p. 557, with fig.

ODONTIODA COOKSONIÆ FOWLER'S VAR.—*Gard. Chron.*, 1912, i. p. 418, fig. 198; *Gard. Mag.*, 1912, pp. 474, 476, with fig.

ODONTIODA QUEEN MARY.—*Gard. Chron.*, June 1st, 1912, Suppl. pp. xxi. xxv. fig. 17.

ODONTOGLOSSUM CRISPUM.—*Journ. Hort.*, 1912, i. p. 541, with fig.

ODONTOGLOSSUM CRISPUM BUMBLE-BEE.—*Journ. Hort.*, i. p. 509, with fig.

ODONTOGLOSSUM EXIMIUM KING GEORGE.—*Gard. Mag.*, June 1st, 1912, Suppl. p. 2, with fig.

ODONTOGLOSSUM HER MAJESTY.—*Gard. Mag.*, 1912, p. 425, with fig.

## ANSWER TO CORRESPONDENTS.

[*Orchids are named and questions answered here as far as possible. Correspondents are requested to give the native country or parentage of plants sent. An* ADDRESSED *postcard must be sent if a reply by post is desired (abroad, reply postcards should be used). Subjects of special interest will be dealt with in the body of the work.*]

A.H.—The note, with several others, is unavoidably postponed.

H.G.A.—Maxillaria sp. The name is at present uncertain, and perhaps an old leaf can be spared.

X.—It is almost impossible to determine some of the secondary hybrids in the absence of record of parentage, which should always be kept and forwarded with the specimens.

We are fully aware that a good many hybrid Orchids are exhibited which do not get recorded, but some are forms of hybrids which have already been named, and in such cases the omission is fortunate. But we should be glad of a brief record of any important cross that may be overlooked, especially primary hybrids.

A correspondent suggests that an account of the different fungus diseases to which Orchids are subject, and the best method of combating them, would be interesting. We quite agree, and should be glad if readers would send examples of any of the diseases which trouble them, and we will endeavour to have the fungus identified, and advise them as to the best mode of treatment.

Photographs received with thanks.—H.G.A., W.B. & Sons.

VOL. XX., No. 236. THE AUGUST, 1912.

# ORCHID REVIEW

Edited by R. ALLEN ROLFE, A.L.S.

Contents.


| | PAGE | | PAGE |
|---|---|---|---|
| Amateur's Collection ... ... ... | 238 | Orchids of Formosa ... ... ... ... | 236 |
| Answers to Correspondents ... ... | 256 | R.H.S. Show and Conference ... ... | 230 |
| Calendar of Operations for August... ... | 242 | Saccolabium fragrans ... ... ... | 229 |
| Dendrobium monophyllum ... ... ... | 228 | Societies— | 250 |
| Evolution of the Orchidaceæ ... ... | 225 | Manchester and North of England Orchid | 253 |
| Holland House Show ... ... ... | 245 | Royal Horticultural ... ... ... | 250 |
| Hybrids, Variation of Secondary ... ... | 234 | Thecostele alata ... ... ... ... | 237 |
| Læliocattleya Lustre var. Buddha ... ... | 241 | Variation of Secondary Hybrids ... ... | 234 |
| Læliocattleya Lustre var. Lavingo ... | 240 | | |
| Odontoglossum crispum, Variation of seedling ... ... ... ... ... | 232 | ILLUSTRATIONS. | |
| Ophrys hybrids ... ... ... ... | 255 | Læliocattleya Lustre var. Buddha ... ... | 241 |
| Orchid Notes and News ... ... ... | 255 | Læliocattleya Lustre var. Lavingo... ... | 240 |
| Orchid Portraits ... ... ... ... | 256 | Odontoglossum crispum, variation of seedling ... ... ... ... ... | 232 |
| Orchid Spot ... ... ... ... ... | 239 | Odontoglossum crispum var. Franz Masereel ... ... ... ... ... | 233 |
| Orchids in season ... ... ... ... | 254 | | |


**PRICE SIXPENCE MONTHLY.** POST FREE 7/- PER ANNUM—SEE OVERLEAF.


# SANDER & SONS.

We receive fortnightly fresh consignments of the best

**OSMUNDA FIBRE**

from our own freehold lands, situated in the best Osmunda producing territory of the United States of America. Price per bushel, **2/6**; per bag, **8/6.**

BY APPOINTMENT TO HIS MAJESTY THE KING.

# *William Bull & Sons*

**WORLD-RENOWNED ORCHIDS.**

HYBRIDS A GREAT SPECIALITY.

Catalogue free on application.

**KING'S ROAD, CHELSEA, LONDON.**

# NOTICES

The ORCHID REVIEW is published regularly at the beginning of each month price 6d. net. Annual Subscription, post free, 7/-, payable in advance.

Volumes I. to XIX. can be supplied unbound at 6/-, or bound in cloth, 7/6, postage extra.—Cost of postage: book post, 9d. per volume; parcel post within the United Kingdom only, 5d. per single volume (series by weight).

Also cases for binding either volume at 1/6 each, post free throughout the postal union.

The ORCHID STUD-BOOK. By R. A. Rolfe and C. C. Hurst. By Parcel Post, 7/11. Abroad, by Book Post, 8/3.

All Subscriptions, Advertisements, Communications and Books for review, should be addressed:—The **Editor of the Orchid Review,** Lawn Crescent, Kew.

Cheques and Postal Orders (sent as above) should be made payable to FRANK LESLIE & Co., and, to ensure safety in transit, should be crossed "& Co."

*Agents for copies supplied through the Trade—*

**MARSHALL BROTHERS, Ltd.,** KESWICK HOUSE, PATERNOSTER ROW, LONDON, E.C.

## SCALE OF CHARGES FOR ADVERTISEMENTS.

| | £ | s. | d. |
|---|---|---|---|
| Five lines and under in column ... | 0 | 2 | 6 |
| Per line after ... ... ... ... ... | 0 | 0 | 6 |
| One-eighth column... ... ... ... | 0 | 4 | 0 |
| Quarter column or eighth page ... | 0 | 7 | 0 |
| Half column or quarter page ... | 0 | 12 | 0 |
| One column or half page ... ... | 1 | 2 | 6 |
| Whole page ... ... ... ... ... | 2 | 0 | 0 |

The Editor invites communications on interesting subjects (which should be written on one side of the paper only), also portraits, &c., of rarities.

Advertisements and late news should be received not later than the 24th of the month.


# CHARLESWORTH & Co.,

ORCHID RAISERS, GROWERS,
IMPORTERS AND EXPORTERS,

# HAYWARDS HEATH,

**SUSSEX,**

Invite their Patrons and Friends to pay them
a visit of inspection at their New Establishment,
——————where may be seen the——————

## Finest Trade Collection of Orchids In Europe.

A Conveyance will be at the Railway Station to
meet Visitors, upon notification being kindly given.

CONTINENTAL BRANCH—RUE GERARD, BRUSSELS.

Telephone No. 50 Haywards Heath. Telegrams:—Charlesworths, Haywards Heath.

Please Address—CHARLESWORTH & Co., Haywards Heath, Sussex.

# THE ORCHID REVIEW.

VOL. XX.] *AUGUST*, 1912. [No. 236.

## EVOLUTION OF THE ORCHIDACEÆ.

*(Continued from page 207.)*

OUR last paper completed the review of the different groups of Orchids, and it now remains to show some of the steps by which they have reached their present development. On this we can obtain no help from geology, the only fossils suspected to belong to the Order being of entirely doubtful origin. We are thus limited to the evidence obtained from existing forms, which is fortunately extensive. We have seen that the two principal characters, the aggregation of the pollen grains into pollinia and the modification of one of the three stigmas into a rostellum, are not universal characters, being absent from the suborder Diandræ, so that the Order is less isolated than might at first appear.

Taking existing Orchids as a guide we may safely infer that the ancestral representatives of the Order were terrestrial monocotyledons, with an inferior, three-celled ovary, numerous minute seeds, having a reticulated seed-coat and rudimentary embryo, and the stamens and pistils not yet aggregated into a column. The flowers were, doubtless, fertilised by insects, which, on visiting the former, would become dusted with the pollen grains from the anthers, as in the case of other entomophilous monocotyledons. We may also infer that ancestral Orchids were natives of the great tropical forest region. The characters mentioned are found in the Malayan genus Neuwiedia, the most primitive of existing Orchids. The species of Neuwiedia have short, erect stems, with a tuft of plicate, Curculigo-like leaves, and an erect spike of yellow or white flowers, with a nearly regular connivent perianth, and three linear or oblong anthers, borne on one side of the flower, free pollen grains, and a slender, nearly free style.

From this point we can trace the progressive modifications of structure until the culminating point of development is reached. Taking the first tribe Apostasieæ we find the third stamen of Neuwiedia reduced to a linear staminode in Apostasia, and totally suppressed in Adactylus, both being accompanied by a change in the shape of the inflorescence. In Cypripedieæ we find the same essential type, but the perianth has now become irregular, the lip modified into a pouch-shaped body the third stamen into

a shield-shaped staminode, occupying a definite position with respect to the lip, the anthers shortened, and the pollen grains cohering into two sticky masses, situated just over two lateral openings of the lip; all these being adaptations to fertilisation by bees, as already described. The tribe Cypripedieæ contains four genera, two of which have retained the three-celled ovary of Apostasieæ, and, curiously enough, both are Tropical American, while the other two have become one-celled by the loss of the three partitions, one being tropical Asiatic, the other widely diffused through the northern hemisphere. Thus, with a unity of type, in the suborder Diandræ we find a division into two well-marked tribes, with progressive modifications of structure, an extended geographical diffusion, and definite climatic adaptations.

In the meantime another and more successful type of variation had arisen, probably from some early form which had lost the three-celled ovary. In this, five of the stamens were destined to play a subordinate part, one only remaining fertile, and that the median one of the outer whorl, homologous with the staminode of the Diandræ. And with it arose a totally new organ, the rostellum, modified from the third stigmatic lobe, on the opposite side of the flower, its function being to secrete some viscid matter causing the pollen grains to adhere to the insect visitor, and thus prevent their loss during its flight to another flower. Correllated with this development we find the early stages of the union of the pollen grains—which were to witness such an enormous development later on—and the confluence of the stamens and pistils into a rigid central column—all of them adaptations securing greater economy of the pollen grains by preventing waste. The anther is operculate, and the filament reduced to a mere hinge. Here, also, is found a use for the abortive stamens, three of which seem to have been suppressed in the Diandræ, the other two in the Cypripedieæ uniting with the median petal to form a lip, while in the Apostasieæ they were suppressed, the lip being undifferentiated.

The union of the two lateral stamens of the outer whorl to form the lip has been continued throughout the Monandræ, while the two corresponding stamens of the inner whorl have been variously developed on the sides of the column, opposite to the anther, as wings or teeth, as circumstances required, doubtless playing their part in keeping the anther in position and in guiding the visiting insects along the required path. The presence of the remaining stamen—the median one of the inner whorl—is generally to be sought among the crests of the lip. This type of structure has been progressively modified along divergent branches and constitutes the great suborder Monandræ.

In the earliest and simplest type of the Monandræ, as in Pogonia, we find the pollen powdery, but examination shows them to be united in fours

(tetrads), owing to the fact that at the last division of the pollen cells complete separation of cells does not take place, and this represents the first stage of their union into pollinia. This powdery pollen is characteristic of the early genera of the tribe Neottieæ, but soon we find a further development, in the union of the compound grains (tetrads) into little packets, each united to a central axis by a short stalk—composed of modified pollen grains—forming the sectile type of pollinia. Correllated with this development we find the viscus secreted by the rostellum hardened into a little gland, to which the sectile club-shaped pollinia are attached. The gland still remains sticky at its extremity, and thus adheres to the body of the visiting insect, and is carried away bodily.

Among the higher types of Neottieæ we find further development of the rostellum, to prevent the pollinia from falling on to the stigma of the same flower, as in Vanilla, of various special developments of the lip and column, as in the Diurideæ, and such complex modifications as the sensitive lip of Pterostylis, and others previously mentioned, all of which are adaptations to secure cross-fertilisation by particular insects, and to exclude other insects which would plunder the flowers without effecting the desired end. We also find many other modifications of floral structure, all directed to the same purpose.

Corresponding vegetative developments among the Neottieæ are found, but are far less numerous than those seen in the epiphytic section of the Order. The plants are still terrestrial, and the great majority of them of the general type seen in the well-known genus Spiranthes. We find, however, modifications in the fleshy roots of the Spiranthes group; the more or less tuberiferous development of the rhizome of Diurideæ; the climbing stems of Vanilla, which often ascend to the tops of the tallest trees; in the fleshy leaves of the last-named genus; in the handsomely variegated leaves of Anœctochilus and a few other genera, the functions of which are obscure; and in the suppression of the leaves in one section of Vanilla, the function of nutrition being carried on by the chlorophyll in the stems. We have also the remarkable development of a leafless saprophytic habit, as in Neottia, Epipogon, Galeola, and a few others which grow upon decaying vegetable matter.

Modifications in other characters could be pointed out, as the fleshy fruits and rounded crustaceous seeds of Vanilla, and the broadly winged seeds of Galeola, all of which are adaptations to particular methods of existence. The Neottieæ generally inhabit moist and shady situations, and are most abundant in warm regions, becoming much less numerous in temperate climates.

Another stage of development is seen in the Ophrydeæ, which much resemble the Neottieæ in habit, while the structure of the pollinia is very

similar to that of the more specialised genera of the same tribe. The anther has now become completely adnate to the top of the column, and the position of the caudicle and gland basal, changes which are clearly correllated with the specialised structure of the anther, which has been already described. A great development of the rostellum is seen in the Ophrydeæ. In Orchis and Ophrys the glands of the pollinia are enclosed in membranous rostellar pouches, which rupture the moment the rostellum is touched by an insect inserting its proboscis into the spur of the lip, and the viscid glands are at once firmly attached to its head. In Habenaria and its allies the rostellum is three-lobed, and the side lobes are elongated into narrow channels, which form carriers for the slender caudicles of the pollinia ; while in the subtribes Diseæ and Corycieæ it is also of a highly complex nature, and is intimately associated with the removal of the pollinia by insects.

Other complexities, such as the extension of the stigma into two clavate processes in Habenaria and Bonatea, the division of the petals in the same, the modifications of the perianth, the various forms of cohesion between its members, the double spur of Satyrium, the union of the lip and column in the Corycieæ, the lateral expansion of the connective of the anther in Diplomeris, and others, by which the anther is so profoundly divided as to have been mistaken for two ; these and other modifications have already been pointed out.

The vegetative developments of the Ophrydeæ are much fewer than in the Neottieæ. They are terrestrial plants, mostly with a general resemblance to the familiar genus Orchis. The rhizome usually forms a distinct tuber, from which the next year's growth is produced, after which the old tuber shrivels up and disappears. The stem is simple, leafy at the base or throughout, and bears a simple terminal spike or raceme, which dies down after ripening its seed. With the exception of Habenaria, which is widely diffused through the tropics, the majority are natives of subtropical or temperate countries, with a marked climatic difference between the seasons, to which their deciduous character may be attributed. Even the tropical representatives, including the large and widely diffused genus Habenaria, are often found where there are marked climatic variations between the seasons, due to periodicity in the rainfall.

R. A. ROLFE.

(*To be concluded*).

## DENDROBIUM MONOPHYLLUM.

A PLANT of this distinct and remarkable Australian species was exhibited at the recent Holland House Show by Sir Jeremiah Colman, Bart., Gatton Park. It is a native of Queensland and New South Wales, and was described by F. Mueller, in 1859 (*Fragm. Phyt. Austral.*, i. p. 189), from specimens collected at Moreton Bay by W. Hill. It had been collected in

the same locality by Allan Cunningham in 1824, and again in 1828, and was enumerated by him in a list of Australian epiphytes, under the name of Dendrobium tortile (*Lindl. Bot. Reg.*, 1839, Misc. p. 33), a fact apparently unknown to Mueller when describing the plant as D. monophyllum. A fine figure of it was given by Fitzgerald (*Austral. Orch.*, i. pt. 6, t. 9), the author remarking: "It is generally to be found on 'oak trees' (Casuarina), high up among the branches, and forming dense clumps which resemble lily of the valley." Cunningham found it "on the upper branches of the loftiest trees of Flindersia australis, 100 feet high, in shaded woods." It is somewhat like a Bulbophyllum in habit, having stout, woody rhizomes, with oblong pseudobulbs, an inch or more long, terminated by an oblong leaf or occasionally a pair, and erect racemes of about nine to fifteen greenish yellow flowers, nearly half an inch long. The racemes are rather one-sided, and both these and the leaves are some four to six inches long. The species was cultivated at Kew in 1871, but of late years has been lost sight of. As regards the earlier name of D. tortile—which probably refers to the twisting of the pedicels to one side of the raceme—it cannot now supersede D. monophyllum, for no description was published, and later on Lindley described an Indian plant as D. tortile, though, when doing so, he probably overlooked Cunningham's name. The re-appearance of this rare Australian species in cultivation is interesting. R.A.R.

## SACCOLABIUM FRAGRANS.

A MOST remarkable little Orchid has re-appeared in cultivation. A tiny plant in a two-inch pot was put into my hands at the recent Holland House Show by M. F. Peeters, Brussels, with the remark that he obtained it from Upper Burma with Vanda cœrulea. Examination with a lens showed that it was a species of Saccolabium, but I did not remember having seen such a thing alive before. The plant was kindly given for the Kew collection, and after a little search I identified it with a drawing of Saccolabium fragrans made by the Rev. C. S. Parish in Moulmein. This drawing is labelled: "Moulmein, May 14th, 1873. Fragrant with the smell of violets. Strange to say, although this little plant grows close to my back door, *i.e.*, in a sort of nullah just behind my house, I lived twenty years in the house before lighting upon it. 'Quo minime credas gurgite piscis inest.'" It was described in the following year (Par. & Rchb. f. in *Journ. Bot.*, 1874, p. 197), and eight years later it appeared in cultivation, when an amusing note was written by Reichenbach (*Gard. Chron.*, 1882, ii. p. 134): After speaking of its discovery by the Rev. C. S. Parish, he remarked:

"A single plant of this curiosity was gathered on May 14th, 1873, by the last-named excellent Orchidist, and—*horribile dictu*—at a very short distance from the house in which he lived, I believe, eighteen years

after having passed the spot, perhaps, some thousand times. The dwarf had a most powerful smell of violets, and its appearance appeared an unsolvable riddle. It was a beloved pet of the Rev. C. S. Parish. And now the very same plant has appeared in the big town, with Mr. B. S. Williams. I obtained the gem as a present, and during several weeks I had the finest perfume of violets as soon as we had warm weather. Mr. Consul Kienast admired the plant with me. Ah! we should no longer want those old-fashioned violets, provided we had a large stock of Saccolabium fragrans. But how came it at those places? Nothing easier than to spin out an explanation theoretically, fantastically. Some millions of years ago—no, that will not do!—since Rev. C. S. Parish, whose days may still be numerous, to the happiness of his friends, lived only eighteen years in Burma. Well, some years before leaving, Mr. Parish had his elephants near his door, laden with baskets of Saccolabium giganteum. Now, seeds of Saccolabium fragrans fell on a wall, or a little plant of it fell down, and one of the brown servants felt some pity for the dwarf, and put it on a wall to surprise its master. Mr. B. S. Williams imported the lovely gem with some Saccolabium giganteum, and it is to be hoped that Rev. C. S. Parish may now feel satisfied to know how the plant came into his hands."

The stem is very short, and bears a few oblong acute very rugose leaves, about half an inch long, dark green above and dull purple beneath, and very short racemes of small purple flowers, the segments of which are white at the base. The lip is pandurate-lanceolate in shape, longer than the other segments, and the spur is broadly clavate, and borne at right angles to the limb. Such a plant would easily be overlooked, and is probably not so rare as has been supposed.

R.A.R.

## THE R.H.S. ORCHID SHOW AND CONFERENCE.

THE following is the Schedule of the Special Show of autumn-blooming Orchids to be held at the Royal Horticultural Hall, Vincent Square, Westminster, on November 5th and 6th next, in connection with the Orchid Conference of which particulars were given at page 190. There are thirty-two classes, as follows:—

1. Effectively arranged group of Orchids.—Open.
2. The same.—Amateurs.
3. Group of Orchids arranged in a space not exceeding 150 square feet.—Amateurs.
4. The same.—Nurserymen.
5. Group of Orchids arranged in a space not exceeding 100 square feet.—Amateurs.
6. The same.—Nurserymen.

7. Group of Cattleya, Lælia, and Brassavola, species, hybrids, and varieties.—Open.

8. The same.—Amateurs.

9. The same.—Nurserymen.

10. Group of Cypripediums, species, hybrids, and varieties.—Amateurs.

11. The same.—Nurserymen.

12. Group of not more than 50 plants of Vanda cœrulea.—Open.

13. Twelve plants of Vanda cœrulea.—Amateurs.

14. The same.—Nurserymen.

15. Six plants of Vanda cœrulea.—Amateurs.

16. The same.—Nurserymen.

17. Group of Odontoglossums and Odontiodas, species, hybrids, and varieties.—Open.

18. The same.—Amateurs.

19. Group of Calanthes, species, hybrids, and varieties.—Amateurs.

20. The same.—Nurserymen.

21. Specimen Orchid.—Amateurs.

22. Three specimen Orchids.—Amateurs.

23. Six specimen Orchids.—Amateurs.

24, 25, 26. The same as the three preceding classes.—Nurserymen.

27. Collection of Orchids of Botanical interest; those with coloured or variegated foliage need not necessarily be in flower.—Amateurs.

28. The same.—Nurserymen.

The four following classes are restricted to Growers residing in or north of Montgomeryshire, Shropshire, Staffordshire, Derbyshire, Leicestershire, Rutlandshire, and Lincolnshire:—

29. Group of Orchids.—Open.

30. Group of Cypripediums, species, hybrids, and varieties.—Open.

31. The same.—Amateurs.

32. Specimen Orchid.—Open.

Cups and Medals will be awarded by the Council after the report of the Judges.

Exhibits should be tastefully arranged with palms or foliage plants, the pots being concealed as far as possible with natural moss or fern.

Where one definite species is asked for, or an exact number of plants is stated, as (*e.g.* in Class 12) other Orchids may be added for decoration, but the class will be judged solely on the merits of the species or number of plants named in the Schedule and not on the added plants.

All entries must be made on or before Tuesday, October 22nd, on special entry forms, to be obtained from the Secretary, from whom all particulars may be obtained.

Further particulars will shortly be announced.

## VARIATION OF ODONTOGLOSSUM CRISPUM SEEDLINGS.

THE annexed figure represents a very interesting case of variation among

Fig. 30. ODONTOGLOSSUM CRISPUM.
Six seedlings from the same capsule, showing variations.
Obtained from O. crispum Alphonso × O. c. Franz Masereel.

seedlings of Odontoglossum crispum from the same capsule, and is reproduced from a photograph kindly sent to us by Messrs. William Bull & Sons,

Chelsea. A batch of seedlings was obtained by crossing O. crispum Alphonso with pollen of O. c. Franz Masereel, and the six forms here figured are the most distinct that were in flower together last May, and the senders remark that there were no further variations of a noticeable kind besides those photographed. O. crispum Franz Masereel is a well-known and very handsome form, whose portrait is here reproduced (fig. 31), and O. c. Alphonso is described as a very good spotted variety—it was inadvertently called O. c. Alpha at page 176, when a note on the subject was given. The seedlings show a remarkable range of variation, but some of the detail is lost owing to the great amount of reduction in the photograph. The

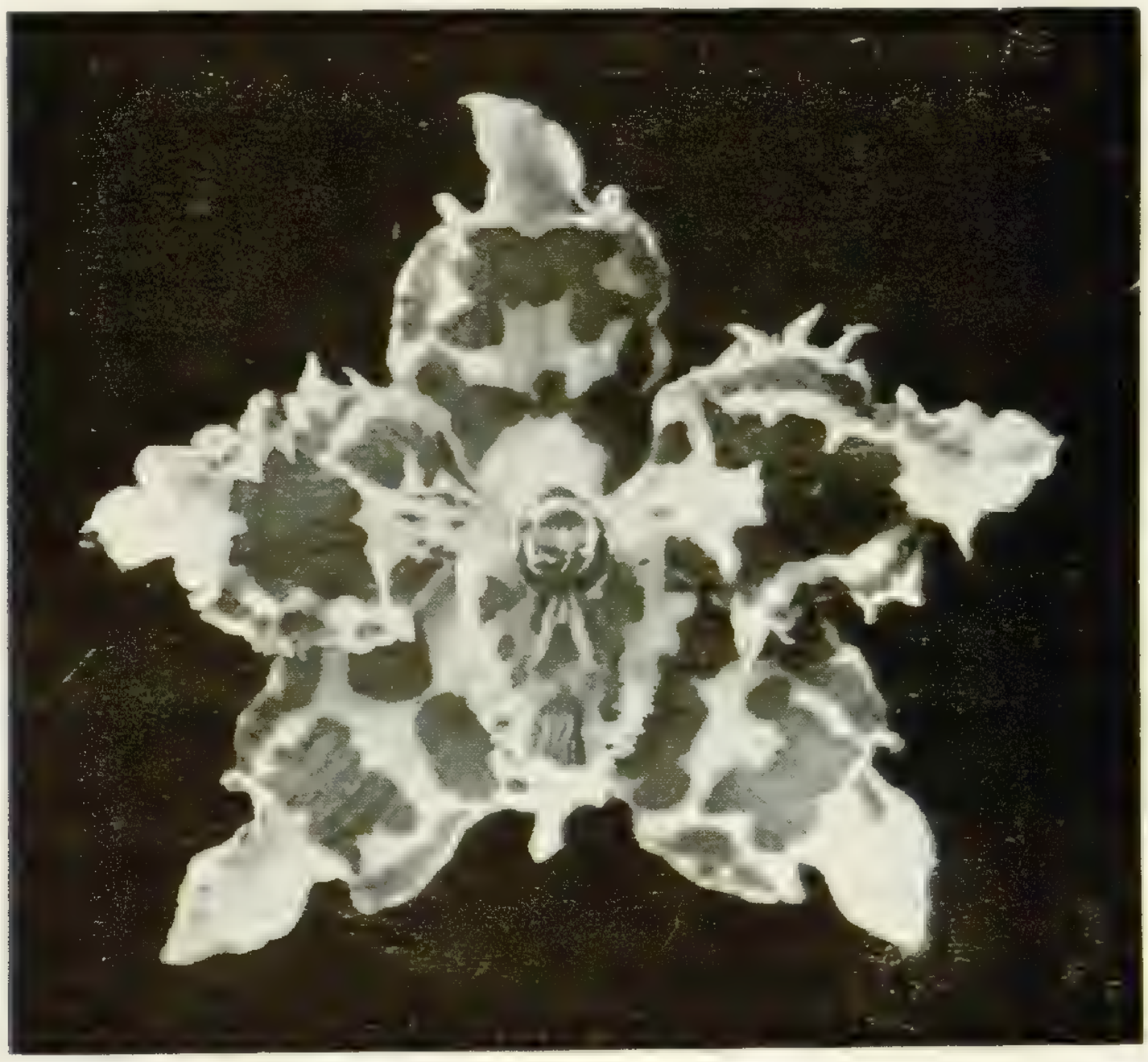

FIG. 31. ODONTOGLOSSUM CRISPUM VAR. FRANZ MASEREEL.

seedling in the upper left hand corner shows a single blotch on each of the sepals and petals, forming a central zone, and many small spots on the lip. To the right of it is one having a number of round spots on each segment, varying from two to five, and irregularly arranged. In the upper right hand corner is a form in which the sepals and petals of three of the five flowers are unspotted, while the other two have a minute spot on one of the sepals. The lip of this form bears from one to five minute spots. The lower left hand figure shows a form in which the blotches are large and irregular, covering about half the area of the segments, while the next to the right has the blotches rather more confluent, leaving a broad white margin to the sepals and petals. In the lower right hand form the spots on the sepals and petals are rather more broken up than in No. 1, while those on the lip are larger and more confluent. In this form we seem to trace a

clear resemblance to certain forms of O. Wilckeanum in the shape and markings of the flower, affording evidence in support of the theory that blotched forms of O. crispum have a hybrid ancestry. As regards shape, the photograph speaks for itself, but we cannot say much about colour in the absence of living flowers. Some of the forms, however, show evidence of a rosy suffusion. The figure affords a graphic illustration of the variation of seedlings from the same capsule when the parents are of mixed ancestry, and one of the plants affords a very clear case of reversion. But there were also a number of ordinary white forms, and those are not shown in the photograph. One other form had the lip copiously blotched with red-purple, and only an occasional blotch on the other segments. Some of the seedlings should develop into good things when the plants become strong.

R.A.R.

## VARIATION AMONG SECONDARY HYBRIDS

Two forms of a very distinct and interesting hybrid were sent some time ago from the collection of Sir Trevor Lawrence, Bart., Burford, Dorking, by Mr. W. H. White, who writes as follows: "Knowing that you are scientifically interested in peculiarities of Orchids, Sir Trevor desires me to send the two enclosed spikes to you. It is from a cross between Lælio-cattleya Adolphus and Cattleya Harrisoniana, and we have had numerous distinct varieties among them, but the most marked peculiarity is that some of the spikes are about two feet in length, and have only about three flowers at the end of the spike, sometimes only one or two, while others are dwarf, about seven or eight inches, with three, four, five, and six flowers, also that several spikes have formed a dwarf kind of leaf about midway between the flowers and the apex of the pseudobulb. We think the yellow one enclosed is rather pretty."

The two forms sent are remarkably diverse, and their common origin would never have been guessed. One has deep golden yellow flowers, with a very broad maroon-crimson margin round the expanded front lobe of the lip, and a little purple suffusion at the apex of the column. The scape is elongated, and the flowers have much resemblance to those of L.-c. Adolphus (L. cinnabarina × C. Aclandiæ) in shape. The other has a short scape, and shows more of the C. Harrisoniana influence, though the flowers are only about half as large. The sepals and petals are light purple, with a distinct yellow tinge, and the lip is yellow, with a very crenulate, and not expanded front lobe, slightly suffused with yellow at the apex. In the veining of the disc the influence of C. Harrisoniana is clearly shown.

The diversity of the length of the scapes we should attribute to reversion more or less complete. Lælia cinnabarina has an elongated scape, while

those of Cattleya Aclandiæ and C. Harrisoniana are comparatively short. The number of flowers, perhaps, cannot be ascertained until the seedlings have reached their full development, but the same influence seems to be at work, for Cattleya Aclandiæ has solitary flowers, while the other two species have several flowers on a raceme. The other peculiarity mentioned is probably due to a leaf-like development of one of the bract-like sheaths which may often be seen on the scapes, and this seems to be an abnormal development. It can only be called a reversion in the sense that bracts and sheaths are themselves reduced leaves.

Various hypotheses, more or less plausible, have been put forward to account for the remarkable phenomena seen among secondary hybrids, but we believe that a satisfactory explanation can be crystallised into the simple phrase,

THE PERMANENCE OF SPECIFIC CHARACTER.

The sole difference between species and hybrids is one of ancestry. The characters of a species have become fixed through having followed the same cycle of development through numerous successive generations, during which the various organs have gradually adapted themselves to the conditions of their environment: meantime the economy of nature has gradualiy eliminated useless developments, and a balance or condition of harmony has been established between the different parts, the significance of which may be summed up in the phrase that species reproduce themselves true from seed. An infinity of characters are involved in the development of an individual of any given species, and the amount of agreement or diversity between individuals of different species depends upon their relationship, and the different phases through which they have passed since diverging from the common starting point.

A hybrid is an individual obtained by the intercrossing of distinct species, hence it combines different hereditary tendencies according to the degree of relationship between the parents. Hybrids combine more or less conflicting elements, and the degree of incompatibility existing between these diverse elements is necessarily increased as the gap between the parents widens and a greater number of differences are involved. Owing to this incompatability the development of the hybrid is more or less a struggle for ascendancy between the discordant elements, and some idea of the nature of the resulting compromise can generally be seen on comparing the characters of the hybrid with those of its parents. Of course there are numerous additional minute and internal characters which cannot be traced by superficial examination.

A hybrid is, therefore, a mosaic, combining more or less dissimilar factors or tendencies, and when it comes to form its reproductive cells—pollen and ovules—dissociation of the mixed elements takes place. The characters of

the original parents are thus represented in the reproductive cells of the offspring in varying proportions, and as the character of the new individual depends upon that of the reproductive cells which unite to form it, and many individuals are often produced by a single cross, the result is the wide range of variation and varying amount of reversion now so familiar among secondary hybrids. Primary hybrids do not vary in this way because derived directly from species, which form reproductive cells of uniform character. R.A.R.

## ORCHIDS OF FORMOSA.

AN interesting article on "The Flora of Formosa" has just appeared from the pen of Mr. H. J. Elwes, who has returned from a two months' trip in the island (*Gard. Chron.*, 1912, ii. pp. 25, 26). The island lies within the tropics, and consists of a mountainous backbone rising at two points to over 12,000 feet elevation, and falling on the east side in very high and steep cliffs to the sea. The flora of the plains, lower hills, and of parts of the central mountain range is fairly well known, the most recent list, by Mr. Kawakami, Government Botanist, containing about 2700 species, but a great part of the interior, and especially of the high mountain range in the north, known to Europeans as Mount Sylvia, is unknown or but little explored, because the aborigines are so hostile that no one can go into the country without great risk of being killed, head-hunting being the favourite pursuit of some of these tribes from time immemorial. The Japanese since their occupation of the country in 1895, have done an immense deal to civilise the country, and the plains are safer to travel in than are some parts of Europe, but it is impossible to visit many districts, and Mr. Elwes was disappointed in his hope of reaching really new ground. Yet a considerable collection of plants was made, and Mr. Elwes remarks: "I have little doubt that my companion, Mr. W. R. Price, who intends to remain during the whole summer and autumn in the island, will enrich Kew with the finest set of Formosa plants that has yet come to Europe." We may extract the following interesting notes about the Orchids of Formosa:—

"Orchids are, in some districts, plentiful, and more than 100 species are found in the island; but by far the greater number are inconspicuous, and of more interest to the botanist than to the gardener. The only really fine species is Phalænopsis Aphrodite, which was formerly common at the south end of the island, but which is now becoming quite rare in accessible districts, as it is collected for sale by the natives. At the time I was there, in February, it was in full flower, though the weather, considering the latitude, was very windy and cold (50° to 60°) at night.

"In the Arisan forest, at 6000 to 7000 feet, are quantities of a Dendrobium with long, thin pseudobulbs, which are collected for some

medicinal use by the Chinese. I saw several other Dendrobes, one with whitish flowers, resembling D. crepidatum, and a variety of D. nobile in the mountains of the north. I also saw a fine variety of Phaius grandifolius, cultivated in gardens, and a beautiful white Calanthe, with flowers twice as large as those of C. veratrifolia, of which it may be a variety. Among the most remarkable plants is a Vanilla, supposed by the Japanese botanists to be a variety of Vanda Griffithii, which we found at about 2000 feet in the north, growing over the trunk of Libocedrus, and having thick, fleshy leaves and stems, ten to fifteen feet long, with pink and green flowers."

## THECOSTELE ALATA.

THIS very interesting Orchid has been submitted to Kew for determination from the collection of the Hon. N. C. Rothschild, Ashton Wold, Oundle, with the record that it was imported from Borneo. It was originally described by Roxburgh, in 1814, as a native of the forests of Chittagong, under the name of Cymbidium alatum (*Hort. Bengal.*, p. 63: *Fl. Ind.*, iii. p. 459), and an original drawing is preserved at Kew. In 1857 a Javan plant, which had been collected by Zollinger, was described by Reichenbach as a new genus, under the name of Thecostele Zollingeri (*Bonplandia*, v. p. 37), and later it was found in Moulmein by Parish, who sent plants to Messrs. Hugh Low & Co., Clapton, with whom it flowered (*Rchb. f. Xen. Orch.*, ii. p. 133, t. 147). Then it was collected in Borneo by Mottley, and later by two or three other collectors. It was ultimately discovered that these two plants were identical, and it was then enumerated under the name of Thecostele alata (Par. & Rchb. f. in *Trans. Linn. Soc.*, xxx. p. 135, t. 29), on the principle of retaining the oldest specific name. It is much like a Bulbophyllum in habit, having clusters of ovoid one-leaved pseudobulbs, and the flowers are borne in drooping racemes, and are much spotted with purple on a whitish ground. From the structure of the pollinia, column wings and lip, the genus is evidently allied to Acriopsis.

Four other species of the genus are now known, as follows:—

T. MAINGAYI, *Hook. f. Fl. Brit. Ind.*, vi. p. 20; *Hook. Ic. Plant.* t. 2118. —Native of Malacca.

T. QUINQUEFIDA, *Hook. f. Fl. Brit. Ind.*, vi. p. 20; *Hook. Ic. Plant.*, t. 2119.—Native of Malacca.

T. WRAYI. Collabium Wrayi, *Hook. f. Fl. Brit. Ind.*, v. p. 784; *Hook. Ic. Plant.*, t. 2065. T. maculosa, Ridl. in *Trans. Linn. Soc.*, ser. 2, ii. p. 374. —Native of the Malay Peninsula.

T. SECUNDA, Ridl. in *Journ. Linn. Soc.*, xxxi. p. 299; *Mater. Fl. Malay Penins.*, i. p. 190.—Native of the Malay Peninsula and Borneo.

R. A. ROLFE.

## THE AMATEUR'S COLLECTION.

By C. ALWYN HARRISON, F.R.H.S.

### COOL HOUSE.

As we are now experiencing very hot weather, every effort must be made to keep the house cool and damp at all times. The rules for damping and watering given last month should still be followed, and a close inspection of every plant daily will be necessary. It will be found a great asset towards maintaining a cool atmosphere inside the house if the blinds are so arranged that a free current of air can circulate between them and the roof glass. This point may seem a needless expense to a novice, but the marked difference in the temperature of a house so fitted, with one where the blinds lay flat upon the roof glass, can easily be discerned. Shade should be given from 9.30 a.m. until 3.30 p.m., or even later, if the house be so placed that it gets all the sun from midday onwards. If the atmosphere is allowed to get dry at any time, thrips will make their appearance. Immediately any are observed, fumigate in the evening, removing all plants which are in flower. Afford all possible ventilation, both during the day and at night.

About this season, many local shows are held, and a group of Orchids is always a pleasing and often novel exhibit. Amateurs who put up small or large collections know how extremely useful the large branching spikes of Oncidiums and the Odontoglossum Edwardii hybrids are for a background. There are now many of the latter in existence, and most are cheap and soon grow into large specimens. Many, however, are inferior as to the size of the individual blooms, and the four undermentioned rank as the best: O. Clytie (Edwardii × Pescatorei), O. Dixoniæ (Edwardii × luteopurpureum), O. Harrisonii (Edwardii × triumphans), and O. Thompsonianum (Edwardii × crispum). In all of them the O. Edwardii character predominates.

### CATTLEYA HOUSE.

Here, again, the methods of culture described in my last month's article are needed, no radical changes being necessary until the close of the following month. There is one point, however, in Cattleya culture which may now be added. About four p.m. pull up the blinds and damp the house and stagings thoroughly, close all the ventilators, and leave the house thus till six p.m. Then give some air, and water any plants which would get too dry if left until the morning. I find that this method of culture considerably helps the plants to ripen their bulbs, and assists others which are in a different state of growth to push fresh roots, or to develop their new pseudobulbs.

Vanda cœrulea should be remossed if this operation is necessary, this

month or the end of April being the best time. Be careful not to injure any of the aërial roots in the process, for, although thick, these are very brittle. Many should now be showing spikes, and must be well supplied with pure rain water, and sprayed overhead in the early morning.

Any Stanhopeas which have finished flowering, and require fresh baskets, should now be attended to. Do not put any crocks in the bottom of the new receptacle, for they push their flower scapes down between their roots, and often from the bottom of the baskets. For compost, use a mixture of osmunda fibre and good fibrous peat, in equal parts, with some heads of living sphagnum moss. Keep them damp overhead, but do not give much water direct to the plants until they begin to take hold of the new compost.

This is now the usual blossoming season of many of the hybrids of Cattleya Warscewiczii (gigas) and Dowiana aurea, also of Lælia cinnabarina and purpurata, and amongst the best undoubtedly must be included C. Hardyana, C. Pittiæ, C. Rothschildiana, C. Octave Doin, Læliocattleya Phœbe, L.-c. Hypatia, L.-c. G. S. Ball, and L.-c. eximia. Next month several important details will be dealt with.

### Suggested Additions.

Odontioda Vuylstekeæ.—This was the first member of this gorgeous bigeneric race which reached a flowering stage, and caused a great sensation on its appearance a few years ago. Since then many beautiful forms have appeared, of which Lady Colman, Crawshayana, and Marjorie Statham are the best. The typical variety has sepals and petals of a creamy white, almost wholly covered with scarlet blotches, and the lip yellow with red markings. This fine hybrid can now be procured at moderate cost, and together with O. Bradshawiæ (*O.R.*, xix. 135) and Charlesworthii, form a good selection for an amateur's Cool house. Odontioda Vuylstekeæ is a hybrid between Cochlioda Nœtzliana and Odontoglossum Pescatorei.

## ORCHID SPOT.

We have received from a correspondent a leaf of Læliocattleya rubens, which has decayed rapidly, the sender remarking that it has "gone off within the last ten days, beginning at the point and eating down a little each day." The house is said to have been shaded from all direct sunshine. We cannot detect the presence of any fungus mycelium, nor yet of any mechanical injury to the leaf itself, for the epidermis is uninjured, hence we suspect it to be some form of the disease known as Orchid spot, which is usually of a local character, and is often attributed to cold drip from the roof, particularly during the winter months. We should like to know if the remaining leaves on the plant remain healthy, also if other plants in the house are affected. We think that some cultural defect is generally the cause of this malady.

## LÆLIOCATTLEYA LUSTRE VAR. LAVINGO.

THE annexed figure represents the beautiful Læliocattleya Lustre var. Lavingo, which was exhibited by Lieut.-Col. Sir George L. Holford, K.C.V.O., Westonbirt (gr. Mr. H. G. Alexander), at the recent Royal International Horticultural Exhibition, and to which a First-class Certificate was given, as recorded at page 194. It was derived from Læliocattleya callistoglossa × Cattleya Lueddemanniana, and as the first-named is descended from C. Warscewiczii and Lælia purpurata no more promising

Fig. 32. LÆLIOCATTLEYA LUSTRE VAR. LAVINGO.

combination could be imagined. The hybrid is of excellent shape, and the petals are broad, beautifully decurved, and of a bright rose-purple colour, while the lip is strongly undulate, and rich purple-crimson in front, with some paler colour between the veins, and some yellow and darker lines in the throat. The shape of the petals and lip, most recalls Cattleya Lueddemanniana. The photograph was taken by Mr. F. Waldock. On the opposite page is figured another seedling from the same capsule, affording a good example of the now well-known variation of secondary hybrids.

## LÆLIOCATTLEYA LUSTRE VAR. BUDDHA.

THIS is a second handsome variety of Læliocattleya Lustre from the collection of Sir George L. Holford, which received an Award of Merit at the recent Royal International Horticultural Exhibition. Its history in other respects is identical with that of the one figured on the preceding page, with which it affords a very effective contrast. It has a broader, much more expanded lip, with some yellow on the sides of the throat, recalling Cattleya Warscewiczii in this respect. The sepals and petals are

Fig. 33. LÆLIOCATTLEYA LUSTRE VAR. BUDDHA.

also relatively more elongated and less decurved, and thus are more like those of the Læliocattleya parent. The colour of the sepals and petals is rosy lilac, and that of the lip rich purple-crimson, with some light mottling and darker veining in front, some dark purple veining down the throat, and some white and yellow at the sides. Both are very handsome, and so diverse in general character that they might have passed as distinct hybrids without evidence of their origin. Another example of diversity in seedlings from the same capsule in Odontoglossum crispum is given on page 232.

## CALENDAR OF OPERATIONS FOR AUGUST.

By J. T. BARKER, The West Hill Gardens, Hessle, E. Yorks.

THE summer temperatures, as given in the May number, must still be maintained, and the remarks there made respecting watering, ventilation, and atmospheric moisture still hold good.

The weather we have recently experienced has not been to the liking of heat-loving Orchids, and while it lasts it is advisable to keep a certain amount of heat in the pipes in all the warm houses, which will allow of a certain amount of air being given to them at all times. I am strongly of the opinion that many failures in the cultivation of Orchids is attributable to a stagnant atmosphere and faulty ventilation.

The Odontoglossum house must still be kept as cool as possible, and during the continuance of wet, cold, and sunless weather ample ventilation may be given, but should a spell of hot and dry weather prevail the top ventilators must be used with caution, and copious dampings must be given.

CATTLEYAS, LÆLIOCATTLEYAS, and allied subjects should be potted as previously advised whenever they get into the proper condition and are in need of it. Wherever these are grown in quantity there will be some that require attention, and with us very few weeks pass without some of these plants being repotted. To keep them in good health the compost must at all times be maintained in a sweet and healthy condition.

SOPHRONITIS GRANDIFLORA.—Plants of this species, now commencing to grow, may require repotting. They are best grown in shallow pans, which must be well drained, and suspended from the roof of the Cool house. A thin layer of compost is all they need to root into. A similar compost to that used for Cattleyas will answer their requirements, but it is advisable to use it in smaller pieces, as this subject is a Cattleya in miniature. Water must be sparingly given until the flower buds appear, when the quantity can be increased.

SOPHROCATTLEYAS and SOPHROLÆLIAS naturally require similar treatment, and several of them are beginning to grow, so that any necessary repotting should be done as soon as new roots are seen to be pushing from the base of the pseudobulbs. These plants succeed in the same material as Cattleyas, and are best grown suspended in a light and cool position in the Cattleya house. Plants that have not yet commenced to grow must be kept on the dry side, but on no account must they be allowed to suffer for want of water. These hybrids require very careful handling, as many of them have a very delicate constitution, and must be watered carefully at all times, as the leaves and growths will decay if the compost gets into a saturated condition. They comprise some of the most brilliant and highly-coloured flowers imaginable.

Epiphronitis Veitchii.—At the present time these plants are producing a number of aërial shoots from the flowering growths. Such growths should now be taken from the parent plant and potted several together, when they will form nice little specimens. This, like Sophronitis, is best grown in shallow pans, and delights in a fairly moist position, near the glass in the Cattleya house. It will succeed in the same compost as the Sophro-cattleyas.

Dendrobiums of the nobile and Wardianum section must be examined towards the end of the month, and any that have completed their growth must be removed to cooler and drier quarters, but water must not be withheld, neither must they be placed in too low a temperature. A temperature of about 60°, with plenty of light and air, will answer their requirements for a few weeks to come. Dendrobiums that are growing freely must have liberal treatment, and every encouragement should be given to enable them to build up their growths as quickly as possible, whichever section they belong to.

Calanthes in full growth may now have liberal supplies of water, and those which have filled their pots with roots may be watered occasionally with weak liquid manure, but care must be taken that it is not over strong. These plants will now need plenty of heat, moisture, light, and air, and should be placed as near the roof glass as possible. The later-flowering section, such as C. Regnieri, must still be watered with discretion, especially if the roots have not reached the sides of the pots.

Miltonia vexillaria.—Plants of this species which produced their flowers early in the season are now commencing to grow actively, and those in need of fresh rooting material should receive attention as soon as new roots are seen to be pushing from the base of the new growth. This month and next I consider to be the best time of the year to repot the early summer-flowering varieties of this most useful species. The autumn-flowering varieties, such as Leopoldii, superba, and rubella are best deferred until the spring. Being surface rooters, they are best grown in half pots or deep pans, and will succeed in a compost made up of equal parts of peat, osmunda and polypodium fibre, sphagnum moss, and clean sifted half-decayed oak leaves, all thoroughly mixed together. Water must be sparingly applied to them until the roots are seen to be entering the new compost freely. A moist position in the Intermediate house, where they can be shaded from strong sunshine, will answer their requirements.

Miltonia Bleuana and M. Hyeana are hybrids of M. vexillaria, and the plants need similar treatment, except that the position given should be a little warmer. I grow them all in the same house, the hybrids at the warm end and M. vexillaria at the cool. The reason is that M. Roezlii, from which the hybrids are partly derived, naturally requires warmer

treatment. Owing to the large quantity of water these plants require when in full growth, they are best repotted every season, and, therefore, the plants must be placed in moderate-sized pans.

COCHLIODAS AND THEIR HYBRIDS.—Plants of Cochlioda Nœtzliana, C. vulcanica, and C. sanguinea may also be repotted in the same kind of compost as that used for Miltonia vexillaria. A light position in the Odontoglossum house will suit them at all seasons. These plants, when crossed with the different Odontoglossums, have given us the beautiful Odontiodas, and those who saw the effect of these delightful Orchids in the various groups at the recent International Exhibition may well ask the question, What will they eventually become? Although of such recent introduction there are many varieties, and they all thrive under the same conditions as the parents. The plants are rather erratic in their time of growing and flowering, and, therefore, whenever it is seen that the new growth is about to push new roots, it is advisable to repot the plant, if it requires it. As these plants have very fine wiry roots, the compost should be used in a finer condition than generally given to thick-rooted plants. It should be pressed firmly into the pots, and the plants must not be allowed to suffer for want of water at any time. Small pots or pans should only be used, as over-potting is most detrimental, the plants being unable to push through a thick body of compost.

TRICHOPILIAS, sometimes called Pilumnas, are a most beautiful and easily-grown family of Orchids. T. nobilis and T. fragrans are two charming autumn-flowering Orchids which may be purchased cheaply, and are easily procurable. They flower profusely, and the flowers are very fragrant, and have lasting qualities when cut. They succeed and grow freely in a cool Intermediate house, suspended close to the roof, and are best accommodated in half pots, which should be well drained. They will also do well in the same compost as Miltonia vexillaria. They should receive copious supplies of water during their season of growth, but when the growths are developed and matured only sufficient moisture to keep the pseudobulbs plump and the roots in a sound healthy condition is necessary. T. suavis, T. marginata, T. Backhouseana, and any others that have flowered, and are pushing new growths, may be repotted, should it be necessary, whenever the young growths are about to push new roots.

PLEIONES.—In the Cattleya house the Pleiones will now be completing their new growths, and, therefore, will need more light and ventilation. Give them sufficient water to keep the compost moist, there being no necessity to dry them to induce them to flower. The cool-growing varieties, as P. humilis and P. Hookeriana, will require liberal and frequent supplies of water until their growths are completed. The position most suitable to them is one close to the roof ventilators of the Cool house.

ODONTOGLOSSUMS.—Two little favourite Odontoglossums, namely, O. Rossii and O. Cervantesii, may have now any necessary attention as regards repotting. They prefer small pans, and should not be pulled to pieces more than is necessary to make them into shapely masses when repotting takes place. The whole of this family may be gone through as they get into the desired condition. The compost recommended for Miltonias, will answer their requirements. Odontoglossum hybrids have reached such numbers, and such complicated parentage, that it is obvious that many of them require some thought and judgment to satisfy their little peculiarities, which I cannot attempt to give in detail, so I advise every grower to carefully observe how his plants succeed under the different conditions they are placed in, by these means he will be able to satisfy the requirements of the most fastidious.

GENERAL REMARKS.—The present month affords a suitable time for the overhauling of the heating apparatus, and putting the same in good working order for the winter. A careful examination should be made of all joints, and any that leak must be made good. The valves and air taps should also be examined and put in thorough working order. Boilers that are old and worn should be replaced with new ones while the weather is favourable for such work, being then done without much risk of injury to the plants. Faulty boilers generally break down when the weather is severe, and then there is always a risk of considerable harm being done to the plants.

The usual routine of cleaning, potting, &c., will comprise the principal work for the month. Towards the end of the month a general preparation must be made for putting the different plants into their winter quarters, and the glass should be thoroughly cleansed to admit as much light as possible during the dark days of winter.

## THE HOLLAND HOUSE SHOW.

THE Summer Show of the Royal Horticultural Society was held at Holland House, Kensington, on July 2nd, 3rd, and 4th, and brought together a very fine display. The number of visitors was also very large at the outset, when the weather was bright and fine, though later on the attendance was limited by incessant rain. The Orchids on this occasion were mostly staged in one of the side tents, and included several very fine groups. The awards consisted of two Gold and five other Medals, two Silver Cups, three First-class Certificates, four Awards of Merit, and one Certificate of Appreciation, while two other Medals were given partly for Orchids.

Orchid Committee present: Sir Harry J. Veitch (in the Chair), and Messrs. J. O'Brien (hon. sec.), Sir Jeremiah Colman, Bart., W. Waters Butler, A. McBean, Clive Cookson, W. Thompson, G. F. Moore. H. G. Alexander, E. Ashworth, R. G. Thwaites, W. P. Bound, T. Armstrong,

Stuart Low, Walter Cobb, R. A. Rolfe, J. Wilson Potter, Gurney Wilson, W. H. Hatcher, W. Bolton, and H. J. Chapman.

Sir Jeremiah Colman, Bart., Gatton Park (gr. Mr. J. Collier), staged a large and very beautiful group, to which a Gold Medal was awarded. It contained many good Læliocattleyas, Odontoglossums and Odontiodas, one brilliant scarlet form of Odontioda Bradshawiæ bearing four spikes, the best having six branches and forty flowers, O. Papilio, examples of Cochlioda Nœtzliana, Dendrobium Victoria-Regina, the brilliant scarlet D. arachnites, and the rare Australian D. monophyllum, Oncidium macranthum, Bulbophyllum grandiflorum with five flowers, Cirrhopetalum pulchrum, Maxillaria vexillaria radiata, Angræcum Eichlerianum, Anguloa virginalis, Odontoglossum Phœbe, O. armainvillierense xant' otes, and O. crispum, Brassia keiliana and longissima, Broughtonia sanguinea, Cattleya Rex, C. Harrisoniana alba, C. Mossiæ Wageneri, Epidendrum alatum, Sobralia xanthroleuca, Eulophia euglossa, Cypripedium superbiens, Nanodes Medusæ, Læliocattleya Sunrise and Phœbe, Masdevallia melanoxantha, M. calura, M. Doris, and various other interesting and showy Orchids of the season. The group was very effectively arranged.

J. Gurney Fowler, Esq., Glebelands, S. Woodford (gr. Mr. J. Davis), staged some fine Orchids in a background of Selaginellas, the latter containing most of the commonly cultivated species. The Orchids included a fine specimen of Anguloa Cliftonii with three flowers, Cattleya Mossiæ Wageneri, C. M. Arnoldiana, C. Warscewiczii, three fine plants of Cypripedium callo-Rothschildianum, Odontonia Lairesseæ, Odontioda loochristiensis, some good forms of Odontoglossum crispum and Pescatorei, a well-blotched O. amabile × eximium, O. percultum, O. armainvillierense with a branched spike of about fifty flowers, and a very fine O. a. xanthotes, with a few others. A Gold Medal was awarded for Orchids and Selaginellas.

E. H. Davidson, Esq., Borlases, Twyford (gr. Mr. Cooper), received a Silver Cup for a fine group of Cattleyas, Læliocattleyas, Odontoglossums, and others, among which we noted a fine Læliocattleya Aphrodite, L.-c. Cowanii, Cattleya Mossiæ, two plants of C. M. Wageneri, C. Mendelii, C. Thurgoodiana, Lælia tenebrosa, Odontioda Charlesworthii, a number of blotched Odontoglossums, forms of O. crispum, and others.

Lieut.-Col. Sir G. L. Holford, K.C.V.O., Westonbirt (gr. Mr. H. G. Alexander), sent a few beautiful specimens, including the richly-coloured Cattleya Warscewiczii Othello, and the variety Frau Melanie Beyrodt, having white sepals and petals and a bright rose-coloured lip. Two other fine things are mentioned under Awards.

J. S. Moss, Esq., Wintershill, Bishops Waltham (gr. Mr. Kench), sent a pretty hybrid from Odontoglossum crispum and O. Othello.

F. M. Ogilvie, Esq., The Shrubbery, Oxford (gr. Mr. W. Balmforth), sent a richly-coloured Odontioda Lambeauiana, Odontonia Lairesseæ with a fine panicle, and a beautiful specimen of Odontoglossum crispum.

Messrs. Charlesworth & Co., Haywards Heath, staged a magnificent group, to which a Gold Medal was awarded. The centre consisted of about sixty fine examples of Phalænopsis amabilis Rimestadiana, round which were arranged a lot of the brilliant Epidendrum vitellinum, and a curved line of Brassavola Digbyana, bearing a dozen flowers, with Miltonias and other dwarf things along the front. The group also contained many excellent Odontoglossums, including O. citrosmum roseum, fine forms of O. eximium, O. Harryanum, O. Scottii (oakwoodiense × armainvillierense), white, with a large red-brown blotch on the sepals and lip, forms of O. crispum, percultum, Lambeauianum, hibernicum, armainvillierense, Jasper, and others, good examples of Vanda cœrulea, the rare V. Charlesworthii, Anguloa Ruckeri, some good Renanthera Imschootiana, Odontioda Latona (Odontoglossum spectabile × Odontioda Bradshawiæ), a richly-coloured form with darker blotches, O. rosefieldiensis, Bradshawiæ, and Charlesworthii, Aërides japonicum and expansum, Sobralia macrantha alba, Oncidium macranthum, a fine plant of O. Claesii, some good O. Lanceanum, Peristeria elata, a specimen of Cryptophoranthus Dayanus crowded with flowers, Brassocattleya Leemanniæ, fine examples of Oncidioda Charlesworthii, Cybele, and Penelope, specimens of Epidendrum prismatocarpum, good examples of Cochlioda Nœtzliana, Gongora leucochila, a handsome Cypripedium Edithæ, C. caudatum and the anomalous form known as Uropedium Lindenii, Masdevallias, Maxillaria tenuifolia, Dendrobium Dearei, a fine Cattleya Mossiæ Wageneri, C. Germania, and other good Cattleyas, with some brilliant Læliocattleyas, noteworthy among them being L.-c. Ceres var. Princess Mary, bearing a spike of eight brilliant yellow flowers with ruby red lip, with many good examples of Miltonia vexillaria, Bleuana and Hyeana, and others.

Messrs. James Veitch & Sons, Chelsea, included a lot of good Orchids in the centre of a magnificent group of Stove and Greenhouse plants, to which a Gold Medal was awarded. The Orchids included many beautiful examples of Odontoglossums and Læliocattleyas, noteworthy among the latter being some good L. c. Canhamiana and its varieties alba and Rex, also L.-c. Python, a bright yellow form with crimson lip, Cattleya Mossiæ Wageneri with five blooms, C. Warscewiczii Sanderiana, Dendrobium Dearei, Vanda cœrulea, Disa Luna, Oncidium leucochilum and prætextum, Odontioda Lambeauiana, Bradshawiæ, and Thwaitesii, Promenæa xanthina, Phaius Norman, and other showy things.

Messrs. Mansell & Hatcher, Rawdon, E. Yorks, received a Silver Cup for a very fine and artistically arranged group, in the form of an undulating

bank, including a brilliant series of Læliocattleyas, among which L.-c. bletchleyensis var. King George was conspicuous by its large and finely shaped flowers, with bronzy rose sepals and petals, and claret-coloured lip with darker veining, also L.-c. Martinetii, and many fine L.-c. Canhamiana, some good Miltonias, including the beautiful white variety Lambeauiana with a nine-flowered spike, M. Bleuana var. laekenensis, Cattleya Dupreana, C. Felicity (Vulcan × Dowiana aurea), some good C. Mossiæ and Warscewiczii, Cœlogyne pandurata and Dayana, a few good Dendrobium Lowii, revolutum, Dearei, and Sanderæ, Masdevallia ephippium, Cirrhopetalum pulchrum, Cypripedium Chas. J. Catt (Godefroyæ leucochilum × Chamberlainianum), a very prettily spotted flower, C. Volonteanum, Epidendrum nemorale, Oncidium pumilum, and Gardneri, Trichopilia Backhouseana, Promenæa xanthotes, a fine plant of Renanthera Imschootiana, Vanda cœrulea, Odontioda Cupid, Charlesworthii, Leeana, and others, Physosiphon Loddigesii, many fine Odontoglossum crispum, O. spectabile, O. Williamsianum, O. hastilabium, Brassolælia Helen, Brassocattleya Leemanniæ, Rhynchostylis retusa, and other good things.

Messrs. Stuart Low & Co., Enfield, staged a large and interesting group, including some fine Cattleyas, noteworthy among them being C. Mendelii alba, C. Mossiæ Queen Mary, C. M. Reineckeana, and some good C. Warscewiczii, Vanda teres, Miltonia Warscewiczii and vexillaria, Acineta Humboldtii, Cœlogyne aspersa, Oncidium sarcodes, pulvinatum, Kramerianum, macranthum, and pulchellum, Epidendrum trachychilum, Bulbophyllum Dayanum, B. galbinum, the rare Gongora bufonia, Cirrhæa viridipurpurea, Promenæa xanthina, Scuticaria Hadwenii, Angræcum Scottii, Lælia tenebrosa Walton Grange var., Lycaste Deppei, Chysis Sedenii, Cypripedium bellatulum and niveum, Masdevallia campyloglossa, calura, simula, trichæte, Dendrobium Dearei, thyrsiflorum, formosum, and aurantiacum, Cochlioda sanguinea, Odontoglossum cordatum, Williamsianum, platychilum, and others, Miltonia Bleuana, M. vexillaria, M. Roezlii alba, and other interesting things (Silver-gilt Flora Medal).

Mr. H. Dixon, Spencer Park Nursery, Wandsworth, staged a good group, including examples of Odontoglossum illustrissimum, Solon, laudatum, and Fascinator, Odontioda loochristiensis and Diana, Cattleya Warscewiczii and C. Mossiæ Wageneri, with some good Læliocattleya Cowanii and others (Silver Flora Medal).

Mr. S. Flory, Orchid Nursery, Twickenham, staged a very interesting group, including examples of Anguloa Clowesii, Bollea Lalindei, Brassavola Digbyana and Perrinii, Lycaste Deppei, Epidendrum radiatum, Lælia purpurata, Polystachya pubescens, Pleurothallis Scapha, Bulbo-

phyllum saurocephalum, three plants of Cochlioda Floryi, Cypripedium Curtisii, C. callosum Sanderæ and C. niveum, Microstylis commelynifolia, Odontoglossum Clytie, O. crispum, Cattleya Mossiæ, C. Mendelii, and others (Silver Flora Medal).

Mr. W. J. Biggs, North Enfield, showed Cattleya Mossiæ alba Bigg's var., a very fine albino, with broad segments.

Mr. E. V. Low, Vale Bridge, Haywards Heath, sent a small group, including Cattleya Mossiæ Reineckeana, C. M. Wageneri Vale Bridge var., C. Madame Myra Peeters, C. Dietrichiana, Cœlogyne pandurata, Cypripedium callosum Sanderæ and C. I'Ansonii, Læliocattleya Norba, Bulbophyllum Lobbii, and a few others.

Messrs. J. & A. A. McBean, Cooksbridge, sent Cattleya Warscewiczii Gladiator, a richly-coloured form, and Maxillaria vexillaria rotunda, a finely-shaped variety.

Messrs. Sander & Sons, St. Albans, sent a small group, including Bollea Lalindei, Catasetum tenebrosum, Ancistrochilus Thomsonianus, Epidendrum auritum, Trichoglottis philippinensis, a good example of Dendrobium regium, Miltonia Bleuana, a fine M. vexillaria Lambeauiana with four spikes, Læliocattleya Isabel Sander (C. Mossiæ Reineckeana × L.-c. Canhamiana Rex), having white sepals and petals and a richly-coloured lip, L.-c. Martinetii Vesuvius, L.-c. Ceres, and the richly-coloured Odontioda Bradshawiæ var. Ruby.

## SILVER LINDLEY MEDAL.

CATTLEYA WARSCEWICZII VAR. LOWII.—A remarkably fine specimen, bearing six racemes and an aggregate of twenty-two very richly-coloured flowers. The plant had already received a First-class Certificate, and the above award was given to mark the excellent culture. Exhibited by Lieut.-Col. Sir George L. Holford, K.C.V.O.

## FIRST-CLASS CERTIFICATES.

CATTLEYA ARTEMIS (Iris × Gaskelliana).—A charming flower of excellent shape, with rose-pink sepals and petals, and the lip intense ruby-crimson in front, with purple-red lines on the yellow disc of the lip. Exhibited by Lieut.-Col. Sir G. L. Holford.

CATTLEYA DUPREANA THE DELL VAR. (Warneri × Warscewiczii).—A remarkably fine form of this handsome hybrid, having bright rose sepals and petals, and the lip deep ruby crimson in front, with a bright yellow disc. Exhibited by Baron Bruno Schröder, The Dell, Egham (gr. Mr. J. E. Shill).

MILTONIA HYEANA VAR. LE CONQUERANT (vexillaria × Bleuana).—A very beautiful white form, flushed with rosy lilac at the base of the petals, and having a deep purple butterfly-like blotch at the base of the lip. Exhibited by M. Jules Hye de Crom, Ghent (gr. M. Coen).

### AWARDS OF MERIT.

BRASSOCATTLEYA MARION (parentage unrecorded).—A beautiful hybrid, having blush pink sepals and petals, and the broad lip darker, well fringed, and flaked with purple on the front lobe. Exhibited by Messrs. James Veitch & Sons.

CATTLEYA THURGOODIANA VAR. APOLLO (Hardyana × Lueddemanniana).—A handsome form, with rose-purple sepals and petals, and the front lobe of the lip deep purple-crimson. Exhibited by Messrs. Stuart Low & Co.

LÆLIOCATTLEYA RUBENS VAR. THE KAISER (L. pumila × C. Hardyana).—A brilliantly-coloured form, having large and well-shaped blooms, with bright rose-coloured sepals and petals, and the lip dark purple with a deep yellow disc. Exhibited by E. H. Davidson, Esq., Borlases, Twyford.

ODONTOGLOSSUM PERCULTUM VAR. KING GEORGE (armainvillierense × Rolfeæ).—A large and handsome form, having the flowers white, copiously blotched with purple. Exhibited by F. M. Ogilvie, Esq., The Shrubbery, Oxford (gr. Mr. W. Balmforth).

### CERTIFICATE OF APPRECIATION.

ODONTONIA EDNA (Miltonia Warscewiczii × Odontoglossum Wilckeanum).—A striking form, most like the former in shape, and bearing a branched spike of flowers, blotched with orange-brown on the sepals and petals. Exhibited by Messrs. Charlesworth & Co.

---

## SOCIETIES.

### ROYAL HORTICULTURAL.

A MEETING of the Royal Horticultural Society was held at the Royal Horticultural Hall, Vincent Square, Westminster, on July 16th, when the feature of the meeting was a magnificent albino of Cattleya Warscewiczii, exhibited by M. Firmin Lambeau (see Awards).

Orchid Committee present: J. Gurney Fowler, Esq. (in the Chair), and Messrs. J. O'Brien (hon. sec.), W. Bolton, J. Wilson Potter, C. H. Curtis, A. Dye, H. G. Alexander, J. E. Shill, W. H. Hatcher, J. Charlesworth, T. Armstrong, F. Sander, W. Thompson, Gurney Wilson, W. H. White, Stuart Low, and F. J. Hanbury.

R. G. Thwaites, Esq., Chessington, Streatham (gr. Mr. Black), received a Silver Banksian Medal for a choice group of Orchids, including good examples of Læliocattleya rubens and Ingramii, the white Miltonia vexillaria Queen Alexandra, Odontoglossum Rolfeæ and Harryanum, and some fine forms of Odontioda Thwaitesii and Charlesworthii.

F. J. Hanbury, Esq., Brockhurst, East Grinstead, showed Brassocattleya Faith (Brassavola Perrinii × Cattleya Leopoldii), an interesting novelty, most like the former in shape, and having pale green sepals and petals, marked with purple, and a blush white lip with some rose-coloured spots.

Sir Trevor Lawrence, Bart., K.C.V.O., Burford (gr. Mr. W. H. White), showed Læliocattleya Adolph-Harrisoniæ (L.-c. Adolphus × Harrisoniana), having cream-white flowers spotted with purple, and Eria rhynchostyloides, bearing three spikes of flowers.

Baron Bruno Schröder, The Dell, Egham (gr. Mr. J. E. Shill), showed Cattleya Hardyana, The Dell var., a very large and richly-coloured form.

Messrs. Stuart Low & Co., Bush Hill Park, staged a fine group, including examples of Cattleya Mendelii, Dendrobium fimbriatum oculatum, Dalhousieanum, and bicameratum, Oncidium macranthum and others, a fine plant of Bulbophyllum Ericssonii, Cœlogyne aspersa, Stanhopea tigrina, Disa grandiflora, Phalænopsis Aphrodite, Brassia verrucosa, Miltonia Bleuana, and some good Odontoglossums, Odontiodas and Masdevallias (Silver Flora Medal).

Messrs. Charlesworth & Co., Haywards Heath, sent a few choice things, including Dendrobium amethystoglossum with two spikes, Eulophia guineensis, and Habenaria Susannæ.

Messrs. Hassall & Co., Southgate, sent good examples of Cattleya Thurgoodiana and Læliocattleya rubens.

Messrs. Sander & Sons, St. Albans, showed Odontoglossum crispum Formidable, a very fine white form, tinged with rose, and bearing an occasional spot on the segments and a brown blotch on the lip.

### FIRST-CLASS CERTIFICATE AND GOLD MEDAL.

CATTLEYA WARSCEWICZII ALBA FIRMIN LAMBEAU.—A very beautiful variety, having pure white flowers, with a pale yellow disc to the lip. Exhibited by M. Firmin Lambeau, Brussels (gr. M. de Munter).

### AWARDS OF MERIT.

ODONTOGLOSSUM EPICASTE (Clytie × crispum).—A striking form, having dark chocolate flowers, with rosy tips and margins to the segments, and the crest of the lip yellow. Exhibited by Messrs. Charlesworth & Co.

ZYGOPETALUM BREWII (Perrenoudii × rostratum).—A showy thing, having green sepals and petals tinged with purple, and the lip rosy carmine, with a broad white margin, and a blue crest. Exhibited by Messrs. Charlesworth & Co.

---

At the meeting held on July 30th, several good groups of Orchids were exhibited, and the awards consisted of five medals and one Cultural Commendation.

Orchid Committee present: J. Gurney Fowler, Esq. (in the Chair), and Messrs. J. O'Brien (hon. sec.), Sir Harry J. Veitch, Sir Jeremiah Colman, J. Charlesworth, W. H. Hatcher, J. E. Shill, A. Dye, W. H. White, Gurney Wilson, de Barri Crawshay, F. J. Hanbury, R. G. Thwaites, F. Sander, T. Armstrong, and C. J. Lucas.

H. T. Pitt, Esq., Rosslyn, Stamford Hill (gr. Mr. Thurgood), received a Silver Flora Medal for a choice group, including three good specimens of the beautiful Cattleya Warscewiczii Frau Melanie Beyrodt, C. Dowiana aurea, C. Source d'Or (Forbesii × Pittiana), Angræcum Scottianum, Bulbophyllum barbigerum, Odontioda Charlesworthii, Chondrorhyncha Chestertonii, Brassolælia Helen, Cypripedium Maudiæ, C. Richmanii, and others.

E. H. Davidson, Esq., Borlases, Twyford (gr. Mr. Cooper), received a Silver Banksian Medal for a select group, including Vanda Sanderiana Borlases var., a large and richly-coloured form, Odontioda Cooksoniæ with two spikes, Odontoglossum Harryanum, O. armainvillierense with a six-branched spike, the charming O. a. xanthotes, and Cattleya Rex with two spikes.

De Barri Crawshay, Esq., Rosefield, Sevenoaks (gr. Mr. Stables), sent Odontoglossum Ethelreda (Edwardii × triumphans), a reddish chocolate flower with a pink margin to the lip, and a fine form of O. Jasper.

Messrs. Stuart Low & Co., Bush Hill Park, staged a fine group, including examples of Dendrobium Dalhousieanum and Falconeri, Vanda cœrulea, Disa grandiflora, Cycnoches maculatum, Brassocattleya Maroniæ, Masdevallia vexillaria Lambeauiana and Queen Alexandra, Cattleya Warscewiczii granulosa and Thurgoodiana, Masdevallia simula, calura and peristeria, Odontoglossum Uroskinneri album and others, Renanthera Imschootiana, Oncidium macranthum, varicosum, &c. (Silver Flora Medal).

Messrs. Charlesworth & Co., Haywards Heath, staged a choice group, including a fine specimen of Grammangis Ellisii, Brassavola Digbyana, Miltonia vexillaria superba, Dendrobium filiforme, Bulbophyllum saurocephalum, Stanhopea oculata, Habenaria Susannæ, Cattleya Warscewiczii, and Odontioda Madeline, the latter a handsome deep red form, with much light veining all round the lip (Silver Banksian Medal).

Messrs. J. & A. A. McBean, Cooksbridge, staged a choice group, including some finely grown Cochlioda Nœtzliana, Cattleya Gaskelliana alba, C. Hardyana, Miltonia vexillaria superba, Odontioda Charlesworthii and Diana, Dendrobium Dearei, and some good hybrid Odontoglossums (Silver Banksian Medal).

Mr. S. Flory, Orchid Nursery, Twickenham, staged a select group, including Warscewiczella discolor, a good Anguloa uniflora, Bulbophyllum cocoinum with three spikes, Maxillaria rufescens, and a good Cattleya Gaskelliana alba (Silver Banksian Medal).

Messrs. Sander & Sons, St. Albans, sent Læliocattleya Mauretania (Martinetii × Canhamiana), a beautiful novelty, having blush-white sepals and petals, tinged and veined with lilac, and a violet-purple lip with a paler margin.

Messrs. James Veitch & Sons, Chelsea, sent Brassocattleya Thetis (B. Digbyana × C. Aclandiæ), having greenish sepals and petals, and a broad lip suffused with rose on the front lobe.

### Cultural Commendation.

Cypripedium W. R. Lee (superbiens × Rothschildianum).—To Mr. W. H. White, Orchid grower to Sir Trevor Lawrence, K.C.V.O., Burford, for a finely-grown specimen, bearing five spikes and thirteen flowers.

---

## Manchester and North of England Orchid.

The first meeting of the 1912-1913 Session was held at the Coal Exchange, Manchester, on Thursday, July 11th, 1912, the members of Committee present being: Rev. J. Crombleholme (in the Chair), Messrs. R. Ashworth, H. Thorp, J. C. Cowan, D. McLeod, J. Bamber, C. Parker, Z. A. Ward, A. J. Keeling, W. Holmes, A. Warburton, and H. Arthur (Secretary).

R. Ashworth, Esq., Newchurch (gr. Mr. Gilden), was awarded a Large Silver Medal for a mixed group of Odontoglossums in variety, including O. crispum xanthotes, armainvillierense, and several fine seedlings; Miltonia vexillaria Sunbeam and Fairy Queen, Cypripedium niveum, Godefroyæ, and callosum Sanderæ, Cattleya Gaskelliana and Mendelii, and the rare Oncidium abortivum.

Col. J. Rutherford, M.P., Blackburn (gr. Mr. Lupton), was awarded a Silver Medal for a group of Cattleya Gaskelliana, including alba, C. Mendelii Duchess of York, C. gigas, C. Maronii, Læliocattleya callistoglossa, Epidendrum vitellinum, and Odontoglossum Masereelianum.

J. McCartney, Esq., Bolton, was awarded a Silver Medal for a group, composed principally of Cattleya Gaskelliana, including delicata and alba, several forms of C. gigas, Miltonia vexillaria, the variety chelseiensis being good, and Oncidium Papilio.

Rev. J. Crombleholme, Clayton-le-Moors, was awarded a Bronze Medal for a group of Cypripediums, including Curtisii giganteum, Stanley Rogerson, tixallense, Gowerianum, Burtonii, Lawrenceanum, and Argus × Mastersianum.

R. le Doux, Esq., West Derby (gr. Mr. Fletcher), staged Cattleya Thurgoodiana Marlfield var. and Læliocattleya Pauline.

Messrs. Charlesworth & Co., Haywards Heath, staged Cypripedium Alfred Sladden, and Odontoglossum Lambeauianum, O. amabile × percultum, and two good seedlings.

Messrs. Stuart Low & Co., Enfield, staged Miltonia Hyeana, M. vexillaria Queen Alexandra alba, and Cattleya Thurgoodiana grandis.

### First-class Certificate.

Læliocattleya callistoglossa splendens Marlfield var., a large well-set flower with brilliantly-coloured lip; exhibited by R. le Doux, Esq.

AWARDS OF MERIT.

Odontoglossum Miss Arline King (parentage unknown), and Læliocattleya Purple Queen (L.-c. Iona × C. granulosa); both from R. le Doux, Esq.

Cattleya Gaskelliana delicata; from J. McCartney, Esq.

Sophrolælia Leda (L. pumila × S.-l. Gratrixiæ); from Messrs. Stuart Low & Co.

## ORCHIDS IN SEASON.

THREE interesting flowers are sent from the collection of G. Hamilton-Smith, Esq., Finchley, by Mr. Coningsby. A dark-coloured seedling, from Cattleya Schilleriana × C. Warscewiczii, is a form of C. Edwardii (*Orchid Stud-Book*, p. 54). It is most like the former in shape, but has broader, red-purple segments, with some darker spots, and a deeply three-lobed, rich purple lip. Another is a seedling from C. granulosa aurea × Lælia xanthina, and is a form of Læliocattleya Robinii (*O. S.-B.*, p. 112). It is most like the Cattleya parent in shape, and has very light greenish sepals and petals, as are also the side lobes of the deeply three-lobed lip, while the obovate, stalked front lobe is light purple. It is very di-tinct and pretty. The third is C. Rex, from a raceme of three flowers.

A flower of a brightly-coloured and very promising seedling is sent from the establishment of Mr. C. Karthaus, Potsdam, Germany, by Mr. R. Blossfeld. It was derived from Læliocattleya elegans × Cattleya Trianæ. It is most like the latter in shape, and rosy purple in colour, with a nearly entire lip. Flowers of another seedling are sent whose parents are not known, but it is suggested that they may have been Cattleya velutina and C. Leopoldii. They are most like the former in general character, and the short rounded side lobes of the lip are quite in agreement, but the segments are more elongated, and the front lobe of the lip considerably broader, so that such a parentage seems extremely likely. The colour had rather faded when the flower reached us.

A flower of Brassocattleya Thetis (Brassavola Digbyana × Cattleya Aclandiæ), which was exhibited at the last R.H.S. meeting, is sent by Messrs. James Veitch & Sons, Chelsea. The sepals and petals are most like the Cattleya parent in shape, but are not widely expanded, as in that, and their colour is light yellowish green, with a tinge of brown, and some narrow brownish lines on the sepals. The lip is distinctly three-lobed, with ample rounded white side lobes, a light yellow disc, and a broad, slightly fringed, rose-pink front lobe, which is rather deeply notched at the apex.

A curious flower of a seedling is sent from the collection of E. F. Clark, Esq., Evershot, Dorset. It was obtained by crossing Lælia cinnabarina with the pollen of Læliocattleya Ballii, and thus is three-fourths derived from the latter, to which it bears a considerable resemblance. It has, how-

ever, a rather broader lip, and much paler sepals and petals. A second flower from a seedling of doubtful parentage is also sent, which has much of the L. cinnabarina character, both in the shape and colour of the flower, and in having long reddish pseudobulbs. It may be a form of Læliocattleya Oliveri (*O.R.*, xvi. p. 187).

## OPHRYS HYBRIDS.

With reference to the Ophrys hybrids noted at page 199, M. Fernand Denis, Balaruc-les-Bains, the raiser, writes: "Of the twenty-three hybrids obtained from O. tenthredinifera × aranifera sixteen have flowered." He also sends a copy of the *Revue Horticole* containing an account of the hybrid, by M. Camus, with figures (pp. 226, 227, fig. 72). M. Denis also states that he has this year flowered three artificial hybrids between Ophrys lutea and O. aranifera, which differ from O. quadriloba, described by M. Camus, and which the latter considers to be a natural hybrid between these two species. He hopes that when the plants flower next year the question may be definitely settled. With respect to Ophrys bombyliflora, which is rare in France, and which had not previously been recorded from the province of Herault, he remarks that he found a colony of about a hundred plants in a wild state, and in the same locality he found Ophrys litigiosa var. virescens, Camus, which is new to the Department. We hope that M. Denis will continue his experiments with Ophrys, and we particularly wish that he would raise a batch of seedlings from O. arachnites and O. aranifera. In making this suggestion we have in mind the remarkable series of O. aranifera (so-called) figured by M. Barla.

R. A. R.

## ORCHID NOTES AND NEWS.

Two meetings of the Royal Horticultural Society will be held at the Royal Horticultural Hall, Vincent Square, Westminster, during August, on the 13th and 27th, when the Orchid Committee will meet at the usual hour, 12 o'clock noon.

The first meeting of the 1912-1913 Session of the Manchester and North of England Orchid Society will be held at the Coal Exchange, Manchester, on August 22nd. The Committee meets at noon, and the exhibits are open to inspection of members and the public from 1 to 4 p.m.

The following are the Competitions for the coming year :—

The President's Cup (S. Gratrix, Esq.), and a prize to the Gardener, for groups and individual plants.

O. O. Wrigley's Gold Medal, and a Silver-gilt Medal to the Gardener, for Cypripediums.

*Z.* A. Ward's Gold Medal, and a prize to the Gardener, for Lælias, Cattleyas, and their hybrids.

Cypher's Gold Medal, for general excellence, and Sander prizes, for groups.

## ORCHID PORTRAITS.

CATTLEYA ARTEMIS.—*Gard. Chron.*, 1912, ii. p. 65, fig. 31.

CATTLEYA GIGAS LOW'S VAR.—*Gard. Mag.*, 1912, p. 512, with fig.

CATTLEYA WARSCEWICZII ALBA FIRMIN LAMBEAU.—*Gard. Mag.*, 1912, pp. 549, 562, with fig.

CYPRIPEDIUM LAWRENCEANUM (a group of).—*Journ. Hort.*, 1912, ii. p. 81, with fig.

DENDROBIUM APOLLO ALBENS.—*Rev. Hort. Belge*, July 15th, 1912, Suppl., with fig.

LÆLIOCATTLEYA BARONESS EMMA.—*Gard. Chron.*, 1912, ii. p. 23, fig. 10.

LÆLIOCATTLEYA FASCINATOR-MOSSIÆ.—*Rev. Hort. Belge*, July 15th, 1912, Suppl. with fig.

LÆLIOCATTLEYA LUSTRE VAR. BUDDHA.—*Rev. Hort. Belge*, July 15th, 1912, Suppl., with fig.

LÆLIOCATTLEYA RUBENS THE KAISER.—*Gard. Chron.*, 1912, ii. pp. 17, 51, fig. 25.

ODONTOGLOSSUM AMABILE WESTONBIRT VAR.—*Gard. Chron.*, 1912, ii. p. 42, fig. 20.

ODONTOGLOSSUM PESCATOREI CHARLESWORTHII.—*Rev. Hort. Belge*, July 15th, 1912, Suppl. with fig.

ODONTONIA EDNA.—*Gard. Chron.*, 1912, ii. pp. 17, 36, fig. 18.

## ANSWERS TO CORRESPONDENTS.

[*Orchids are named and questions answered here as far as possible. Correspondents are requested to give the native country or parentage of plants sent. An* ADDRESSED *postcard must be sent if a reply by post is desired (abroad, reply postcards should be used). Subjects of special interest will be dealt with in the body of the work.*]

R. B.—Cattleya Leopoldii. The original C. guttata, Lindl., is seldom seen in gardens.

W. C.—Maxillaria tenuifolia.

"O. C."—We are aware of the discrepancy between the two lists mentioned, but our own was taken from the Official Attendance Book, both as to name and sequence, and we have since verified it. We do not know how the other was compiled.

Photographs received with thanks.—De B. C.: A. A. McB.; F. H. M.

ERRATUM.—We regret that owing to a printer's error the figure of Dendrobium superbum given at page 144 was inserted upside down.

We have received from the Agricultural and Horticultural Association, 92, Long Acre, London, a copy of the pamphlet, *Indoor Gardens*, by T. W. Sanders, F.L.S. Price one penny, and well illustrated.

VOL. XX., No. 237. THE SEPTEMBER, 1912.

# ORCHID REVIEW

Edited by R. ALLEN ROLFE, A.L.S.

Contents.


| | PAGE |
|---|---|
| Amateur's Collection ... ... ... | 270 |
| Answers to Correspondents ... ... | 288 |
| Calendar of Operations for September ... | 274 |
| Cypripedium Baronin Schey ... ... | 265 |
| Cypripedium, a curious cross ... ... | 284 |
| Dendrobium nobile Rappartianum ... | 273 |
| Evolution of the Orchidaceæ ... ... | 260 |
| Exporting Orchids by post ... ... ... | 269 |
| Ghent Quinquennial... ... ... ... | 259 |
| Hybridist ... ... ... ... ... | 272 |
| Oncidioda Cooksoniæ ... ... ... | 272 |
| Lælia tenebrosa, yellow varieties of ... | 266 |
| Listrostachys O'Brieniana ... ... ... | 284 |
| Obituary—F. M. Burton ... ... ... | 271 |
| Odontoglossum, leaf spot of ... ... | 267 |
| Orchid Notes and News ... ... ... | 285 |
| Orchid Portraits ... ... ... ... | 288 |
| Orchids in season ... ... ... ... | 285 |
| Our Note Book ... ... ... ... | 257 |
| Pollen, use of mixed ... ... ... ... | 272 |
| R.H.S. Scientific Committee ... ... | 286 |
| Societies— | 277 |
| Birmingham Botanical and Horticultural | 282 |
| Manchester and North of England Orchid | 282 |
| Royal Horticultural ... ... ... | 277 |


ILLUSTRATIONS.


| | |
|---|---|
| Cypripedium Baronin Schey ... ... | 265 |
| Dendrobium nobile Rappartianum... ... | 273 |


**PRICE SIXPENCE MONTHLY.** POST FREE 7/- PER ANNUM—SEE OVERLEAF.


# SANDER & SONS.

We receive fortnightly fresh consignments of the best

**OSMUNDA FIBRE**

from our own freehold lands, situated in the best Osmunda producing territory of the United States of America. Price per bushel, **2/6**; per bag, **8/6.**

BY APPOINTMENT TO HIS MAJESTY THE KING.

# *William Bull & Sons*

**WORLD-RENOWNED ORCHIDS.**

HYBRIDS A GREAT SPECIALITY.

Catalogue free on application.

**KING'S ROAD, CHELSEA, LONDON.**

# NOTICES

The ORCHID REVIEW is published regularly at the beginning of each month price 6d. net. Annual Subscription, post free, 7/-, payable in advance.

Volumes I. to XIX. can be supplied unbound at 6/-, or bound in cloth, 7/6, postage extra.—Cost of postage: book post, 9d. per volume; parcel post within the United Kingdom only, 5d. per single volume (series by weight).

Also cases for binding either volume at 1/6 each, post free throughout the postal union.

The ORCHID STUD-BOOK. By R. A. Rolfe and C. C. Hurst. By Parcel Post, 7/11. Abroad, by Book Post, 8/3.

All Subscriptions, Advertisements, Communications and Books for review, should be addressed:—The **Editor of the Orchid Review,** Lawn Crescent, Kew.

Cheques and Postal Orders (sent as above) should be made payable to FRANK LESLIE & Co., and, to ensure safety in transit, should be crossed "& Co."

*Agents for copies supplied through the Trade—*

**MARSHALL BROTHERS, Ltd.,** KESWICK HOUSE, PATERNOSTER ROW, LONDON, E.C.

## SCALE OF CHARGES FOR ADVERTISEMENTS.

| | £ | s. | d. |
|---|---|---|---|
| Five lines and under in column ... | 0 | 2 | 6 |
| Per line after ... ... ... ... ... | 0 | 0 | 6 |
| One-eighth column... ... ... ... | 0 | 4 | 0 |
| Quarter column or eighth page ... | 0 | 7 | 0 |
| Half column or quarter page ... | 0 | 12 | 0 |
| One column or half page ... ... | 1 | 2 | 6 |
| Whole page ... ... ... ... ... | 2 | 0 | 0 |

The Editor invites communications on interesting subjects (which should be written on one side of the paper only), also portraits, &c., of rarities.

Advertisements and late news should be received not later than the 24th of the month.


# CHARLESWORTH & Co.,

ORCHID RAISERS, GROWERS,
IMPORTERS AND EXPORTERS,

# HAYWARDS HEATH,

**SUSSEX,**

Invite their Patrons and Friends to pay them
a visit of inspection at their New Establishment,
——————where may be seen the——————

## Finest Trade Collection of Orchids In Europe.

A Conveyance will be at the Railway Station to
meet Visitors, upon notification being kindly given.

CONTINENTAL BRANCH—RUE GERARD, BRUSSELS.

Telephone No. 50 Haywards Heath. Telegrams:—Charlesworths, Haywards Heath.

Please Address—CHARLESWORTH & Co., Haywards Heath, Sussex.

# THE ORCHID REVIEW.

VOL. XX.] *SEPTEMBER*, 1912. [No. 237.

## OUR NOTE BOOK.

IN recent issues we have published the programme of the Special Orchid Show and Conference to be held by the Royal Horticultural Society on November 5th and 6th next (pp. 190, 230), and we hope that our readers will do their best to make the event a success. The Orchid Conference held in 1885 was one of the most successful events in the Society's history, and although twenty-seven years have since elapsed, some of us have still a vivid recollection of the magnificent show of Orchids brought together on that occasion. The event took place in May, which is probably the most suitable time of year for an Orchid Show, but since that period there has been such an enormous accession of autumn-flowering Orchids, chiefly from the hands of the hybridist, that there is all the materials for a magnificent display. We may also mention in this connection the re-discovery of the two "lost Orchids," Cattleya labiata and Cypripedium Fairrieanum, for both are autumn flowers, which have produced a series of very useful and beautiful hybrids. It would have been interesting to have had additional classes for these two species and their hybrids, and there may still be time for such an addition, as the arrangements are not complete. We mention the matter here, and intend to put it forward in the proper quarter as a practical suggestion.

---

It will have been noticed that there is a series of very interesting competitive classes, and some of them quite small, so that we hope to see them better utilised than in the case of the recent International Horticultural Exhibition, which was one of the most disappointing features of a magnificent Show. Everyone seemed to have devoted their energies to staging miscellaneous groups for effect, and the result was that special classes, including those for culture, were almost neglected. At the coming Show there are a few classes for effectively-arranged groups of Orchids, but we hope they will not completely overshadow the rest of the Exhibition, especially as others are provided for definite subjects and for specimen plants. The special class for northern growers should attract some of those who live at a distance from London. The Conference itself should provide

numerous subjects for discussion, and we anticipate a particularly interesting meeting.

---

It has not escaped the observation of some of our critical correspondents that two distinct names for a new hybrid between Odontoglossum Edwardii and O. triumphans appeared in our last issue, namely, O. Harrisonii (p. 238) and O. Ethelreda (p. 252), and the event has led to an interesting correspondence. It appears that O. Harrisonii flowered in December last, but for some reason was not then recorded, and at the R.H.S. meeting held on July 30th last, the same hybrid appeared under the name of O. Ethelreda, and secured slightly earlier publication in the report of the meeting. Thus O. Ethelreda should be adopted as the correct name, by virtue of its earlier publication. A correspondent remarks: "It matters not how long you keep a plant in your private knowledge under a name; it is when it is first shown or published that it assumes its name. Before then it is unknown, except to the raiser, and if he keeps it private that is his fault." But it is not enough to show the plant, he must also see that it is clearly recorded, or he may have the misfortune to see his name superseded by some later production which happens to catch the reporter's eye; of which examples could easily be pointed out. It might be added that the name must also be in correct form, a detail which does not affect the present case. And now, having established the sacred principle of priority of publication, we shall hope to see it applied to cases where it is not a matter of days, but of months, and even years earlier that certain names were published which are still generally ignored.

---

Another question that has been raised concerns the genus Vuylstekeara, which, it is said, "cannot be recognised, because based upon an error, consequently there is no such trigeneric hybrid in existence—at all events, none that has yet bloomed." It is true that the genus was originally based upon an erroneous record, but the other objections do not apply, for a striking hybrid derived from Odontonia Lairesseæ and Cochlioda Nœtzliana was exhibited by M. Jules Hye de Crom at the recent Royal International Horticultural Exhibition, and was fully recorded and described at page 171 of our June issue. And as the rule requires that the name of a trigeneric hybrid shall include all hybrids between the three genera, in whatever way the combination was effected, the name Vuylstekeara will stand for the later production. Vuylstekeara insignis will become a synonym of Miltonia Harwoodii, as we have already shown, but Vuylstekeara Hyeana is in accordance with the rules drawn up by the Committee appointed by the R.H.S. to consider such cases, and as the said rule was adopted by the Brussels Congress, and incorporated in the Rules of Horticultural Nomen-

clature, the name will stand, dating from June of the present year. To propose a new name now for the hybrids between Cochlioda, Miltonia, and Odontoglossum would only be to stultify the Committee's work, which is unthinkable.

---

A particularly interesting article appears on another page with respect to a disease of Orchids. There has been a widely-spread belief among Orchidists that what is known as Orchid Spot is caused by a parasitic fungus, but experts have frequently failed to detect its presence, and have attributed the spot to some mechanical injury, especially to a chill caused by cold drip from the roof, which injures the leaf tissues, the decaying tissue then being attacked by certain fungi which live upon decaying vegetable matter, but which are incapable of injuring healthy leaves. It now appears that scepticism has been carried too far, and that a fungus has been introduced from Columbia, with Odontoglossum crispum, which lives upon the under surface of the leaves, and is capable, if neglected, of spreading and doing much mischief. We believe that some damaged Odontoglossum leaves were sent to us a few years ago, but that we failed to detect the presence of a fungus, perhaps through being too much affected with the prevailing scepticism, though we fancy that only the black spots remained, through the leaves either having been sponged or the mycelium otherwise rubbed off the surface. Now that the presence of the fungus in British collections has been definitely proved, it will be interesting to see whether it has become generally distributed. Fortunately, it appears possible to control it or stamp it out by sanitary treatment, but growers should be on their guard, or it may cause much damage before they are aware of its presence.

---

THE GHENT QUINQUENNIAL SHOW.—We have received the schedule of prizes of the seventeenth Quinquennial International Horticultural Exhibition to be held at Ghent from April 26th to May 4th next, also a plan and elevation of the Exhibition buildings. Section 2 is devoted to Orchids, and contains 89 classes, including groups, for amateurs and nurserymen, new species and hybrids, genera and groups of allied genera, specimens remarkable for culture and floriferousness, and single specimens of all the leading kinds. An extensive series of medals and other prizes are offered. Gold Medals, value 100 and 50 francs, are offered for collections demonstrating the favourable influence of symbiotic fungi in the germination of Orchids: and the same to Nurserymen for the greatest number of hybrids raised in their establishments, with their parents. The Jury will be, as usual, of international standing, excluding persons living in the City of Ghent. Full particulars may be obtained from the Secretary, Ghent.

## EVOLUTION OF THE ORCHIDACEÆ.

(*Concluded from page* 228).

WE now come to the great subdivision of the Order in which the pollen grains have become agglutinated together into waxy masses, and in which the epiphytic habit is developed, the latter character, however, not universally, for many genera of both the Epidendreæ and Vandeæ are terrestrial, hence the epiphytic habit was probably a later development. The waxy condition of the pollinia may be regarded as a direct adaptation to prevent waste as Orchids became increasingly dependent upon insects for their fertilisation, and it probably arose quite independently of the sectile condition of the pollinia, which is another adaptation to secure the same end. In a few primitive types it is sometimes difficult to say where the powdery pollen ends and the waxy condition begins. The fundamental difference between the two is that in the latter the contents of each pollen sac remain cemented together in a waxy mass, and as the one apparently passed directly into the other we need not be surprised at the existence of a few types in which the character has not become fixed. Another evidence of a primitive state of development in Epidendreæ is seen in the unspecialised rostellum, which performs the simple function of a secretory organ, producing a viscid substance for the purpose of gluing the pollinia to the body of the visiting insect.

There appears to be almost a transition between the Arethuseæ and the Epidendreæ, but we soon find a wide degree of diversity, both in structure and habit. One marked structural difference is that in the Epidendreæ the two anther-cells are often subdivided by longitudinal and transverse partitions, giving four and eight pollen masses, or occasionally—by an irregular development—six, instead of the original two, though they usually cohere together by the viscid secretion from the rostellum. Sometimes the pollinia are produced into caudicles at the base, as in many of the Lælieæ. Another marked structural innovation of the Epidendreæ is the development of a foot to the column, bearing the lip at its apex, a character often associated with an articulated or mobile lip, and evidently bearing a definite relation to the visits of the fertilising insect. The foot represents a further unilateral extension of the column, affecting the combined median petal and the stamens which unite with it to form the lip. This extension frequently affects the lateral sepals, which are then borne from the sides of the foot, forming a chin or sometimes a spur-like body, called the mentum, as in Dendrobium, or the lateral sepals may be carried up to the apex of the foot, as in Drymoda and Monomeria. Other structural developments that might be mentioned are the union of the sepals into a tube, as in Masdevallia and Cryptochilus, that of the lip with the column, as in Calanthe and

Epidendrum, and various others which were mentioned in reviewing the different groups.

It is in the vegetative characters, and especially in the assumption of an epiphytic habit, that the most striking development appears in the Epidendreæ. Epiphytes were derived from terrestrial forest plants, and the key to their evolution is found in the perpetual struggle to reach the light without the expenditure of the material necessary to raise a terrestrial plant to an adequately lighted spot, and in the successful adoption of a xerophilous habit. The least modified types of the Epidendreæ are still terrestrial; others live in moist shady crevices of bark low down on the tree trunks, while the more specialised ones live in drier but better lighted situations higher up the trees, or sometimes on rocks or other places where suitable conditions are found. The presence of epiphytes indicates the existence of a warm moist climate, or at least of an adequate supply of moisture during the season of active growth, for numerous devices have been adopted to carry them successfully through periods of drought.

One of the earliest stages in the adoption of an epiphytic habit is seen when the subterranean or prostrate stem of a terrestrial Orchid begins to ascend the tree trunks, where a plentiful supply of moisture or accumulations of decaying vegetable matter rendered the change possible, and this was quickly followed by the production of aërial roots, with a modification of the root-bark into a grey protective covering, formed of air cells, and known as velamen. Then came the production of lateral branches—in this case known as secondary stems—bearing the leaves and becoming variously thickened into fleshy pseudobulbs, forming store-houses for water and other nutritive substances, to enable them to tide over periods of drought, when vegetative activity is more or less suspended. In some cases these secondary stems are scarcely thickened at all, as in Pleurothallis; in others they are so excessively short as to appear absent, as in Masdevallia, or the amount of thickening may vary enormously in detail, and may affect one or several adjacent internodes, as may be seen on comparing such well-known and diverse types as Dendrobium, Bulbophyllum and Cattleya. Or they may become hollowed, forming receptacles for ants, as in Diacrium and Schomburgkia, the presence of the ants keeping cockroaches and other predacious insects in check, the plants thus providing a home for the ants in return for very effective services rendered.

Modifications of foliar structure are seen in the articulated leaves of many genera, an adaptation securing the fall of the leaf, when no longer of service, and when its presence might be injurious by preventing the access of light. The leaves may also become fleshy, affording a storehouse for water, as in the Pleurothallis and Cattleya groups.

Some of the characters which we have just considered reach a still

higher phase of development in the great subdivision Vandeæ, in which the culminating point of development of the Orchidaceæ is reached. The essential character of the Vandeæ lies in the character of the rostellum and pollinary apparatus. Here the rostellum has more than a secretory function, for it supplies also a stipes which serves to connect the viscid gland with the pollinia, and the line of separation of the stipes from the rest of the rostellum is by a zone of hyaline tissue, ultimately forming a line of disarticulation similar to that by which a leaf is thrown off at its fall in autumn. The stipes of the Vandeæ must not be confused with the caudicles of other groups, for it is a part of the female whorl of the flower, while the caudicles belong to the male whorl, and are, in fact, pollinary appendages formed of modified pollen grains. The union between the stipes of the rostellum and the pollinia takes place about the time that the flower reaches maturity and prepares to open. Calanthe and some other genera of Epidendreæ were referred to Vandeæ before this distinction was properly understood, while Ione and a few others have since been transferred there because of a stipes-like appendage to the pollinia. But this view of the origin of the stipes in Ione requires confirmation, for in other respects the genus is so close to Bulbophyllum as to have been actually referred to it. It is also nearly allied to Acrochæne and Monomeria, which, with a few others, have been regarded as in a transition state between the two tribes, though the so-called stipes is apparently caudicular in origin.

The genera of Vandeæ have already been briefly outlined, and we need only recall the highly complex nature of the flowers in some of the higher genera, as in Stanhopea and Coryanthes, the remarkable structure and mode of fertilisation having been fully described (*O.R.*, xviii. p. 323); in the remarkable genera Catasetum and Cycnoches, in some of which the sexes are so diverse as to have been referred to different genera; in the various genera of Oncidieæ, some of which are highly specialised, and of which we may mention Comparettia, in which the lateral sepals are extended into a long spur, which includes two spur-like horns produced from the lip, the still more complex Cryptocentrum; and, lastly, in some of the genera of Sarcantheæ, which show various complexities, as the double spur of Diplocentrum, the divided pollinary appendages of Mystacidium, and the diversely-coloured flowers of Arachnanthe Lowii, the cause of which remains a mystery.

In vegetative characters the Vandeæ exhibit a further advance in complexity. The terrestrial genera are now in a great minority, and there is a great increase in number of true epiphytes—those that grow directly upon the bark of trees, rather than upon accumulations of vegetative matter among the branches, and push out long aërial roots, which serve the double purpose of securing a firm hold for the plant and of absorbing liquid food

for its nourishment. These aërial roots wind round the branches, often extending for yards, and clinging so tightly to the bark as to mould themselves to every little inequality, and often ultimately hang free in the air, doubtless for the purpose of absorbing moisture, as in Rodriguezia and some of its allies. In some of the genera provision for storing water takes the form of pseudobulbs, of very various shapes, in others the only means of storage is the thick, leathery leaves, in which evaporation is reduced to a minimum; both being contrivances by which moisture is retained through seasons of drought. The Sarcantheæ rely entirely upon their leaves for storage purposes, there being a complete absence of pseudobulbs throughout the group. Here also another remarkable development is seen, some of the genera being able to exist without leaves, as Tæniophyllum and Chiloschista in India and Malaya, Dendrophylax and certain species of Campylocentrum in Tropical America, and some of the Angræcums in Africa and Madagascar—the all-essential chlorophyll being in these cases developed in the roots. If we compare such an Orchid as Dendrophylax funalis, organ by organ, with the primitive Neuwidia, we might wonder what characters the two possess in common, yet, as we have already seen, they are connected by a long chain of intermediates, through which every intermediate phase of progressive development can be traced.

We have now seen that Orchids have been developed along two distinct lines, first by adaptations to insect fertilisation, and these of an ever-increasing degree of complexity, and, secondly, by adaptations to an epiphytal mode of existence, with the necessary modifications of the organs of absorption and nutrition, and a diversified set of provisions for storing water against seasonal periods of drought.

These considerations necessitate our attaching a supreme value to the organs of fertilisation in any natural system of classification, and this leads to a brief reference to the system of classification by vegetative characters proposed by the late Professor Pfitzer. After separating the Ophrydeæ, which were made to follow the Diandræ—where they are certainly out of place—the next primary division adopted was that into Sympodiales and Monopodiales, according to whether the inflorescence was terminal or lateral. In the Sympodiales the growth is terminated by an inflorescence, after which a new lateral shoot is produced, but in the Monopodiales the stems continue to grow for a number of years at the apex, and the inflorescence is lateral. But Pfitzer himself admits that the monopodial type is not monophylitic, and remarks that the monopodial Huntleyinæ are very near the sympodial Zygopetalinæ, and may have been derived from them. Bentham, indeed, included Huntleya under Zygopetalum, which is, perhaps, an extreme view. The fact is the monopodial mode of growth only came in after the adoption of an epiphytic habit. It is a purely

vegetative character, and cuts across whole groups of affinities, and we are therefore fully justified in assigning it to a subordinate position.

The enormous number of minute seeds produced by Orchids, and the imperfect embryo, with the absence of nutritive tissue, or endosperm, are characters that invite remark, and are evidently connected with their method of existence. The seeds become increasingly numerous in the higher groups —in the case of Cycnoches chlorochilon it is estimated that the progeny of a single capsule, if they all grew, would equal the population of London —and in the case of epiphytes the small proportion of seeds that are likely to find a suitable resting-place would naturally result in their production in vast profusion, and this in turn would lead to modifications in the economy of fertilisation. A large amount of pollen is necessary for the impregnation of the almost innumerable seeds, and the various modifications which were preserved, because useful to the plant, would naturally be correlated together.

Another correlated and apparently unique character is seen in the immaturity of the ovary and ovules when the flowers expand, these only being developed after and as a result of pollination, fertilisation proper being delayed until a considerably later period. It is a kind of conservation of energy until the chain of events which leads to the production of the seeds is set in motion, and points to a cause which has operated from a remote period in the past. The long time that the flowers often remain open in the absence of pollination, and their quick withering after that event, is an arrangement that would tend to synchronise the flowering of the species with the appearance of its insect visitors, and the habit of certain Orchids of producing solitary or few flowers at intervals, and in strict succession, on the same inflorescence is evidently connected with the uncertainty of insect visits, so that if any given flower should fail to be pollinated others would follow to take its place. This character is well known in the Sarcochilus group and in Bulbophyllum section Intervallata.

We have now seen that Orchids have been derived from more primitive monocotyledons, possessing fifteen floral organs, arranged in five whorls of three each, and that the profound changes that they have undergone are the result of varying degrees of cohesion, suppression, and modification of parts, these being adaptations to fertilisation by insects, under which a high degree of irregularity has been attained. And, as monocotyledons are now believed to have been derived from dicotyledonous ancestors, we may assign to Orchids a position of the highest rank among members of the vegetable kingdom, both by claims of long descent and by complexity of structure. Their beauty and interest are universally admitted, and thus we are fully justified in regarding them as the aristocrats of the vegetable world.

R. A. ROLFE.

## CYPRIPEDIUM BARONIN SCHEY.

THE annexed figure represents a very pretty and delicately-coloured hybrid which has been raised at the Palmengarten-Gesellschaft, Frankfurt a Maine, Germany, from Cypripedium superciliare crossed with the pollen of C. Fairrieanum. A flower has been kindly sent by Herr Director Siebert, together with two photographs taken by Mr. Miethe, the larger of which

Fig. 34. CYPRIPEDIUM BARONIN SCHEY.

represents the flower exactly three-fourths natural size. We have combined the two in the present figure. The cross was made in December, 1907, and about twenty seedlings resulted, one of which flowered in July last, as here shown. The foliage is said to be mottled much in the same way as in C. vexillarium, but the plant seems to be of more robust growth. The scape,

it will be seen, is about twice as long as the leaves, and produced two flowers, which bear a very general resemblance to C. vexillarium in shape. The dorsal sepal is nearly orbicular, very undulate, and somewhat reflexed at the sides, and measures two inches across, its colour being white, slightly flushed with light purple at the sides, and veined with a rather darker tint, the veins passing into yellowish green at the base, while the margin is closely ciliate with minute white hairs. The petals are closely veined with yellowish green, and bear a number of minute blackish purple dots, while the margin is undulate, flushed with purple, and ciliate with long blackish hairs. The lip is suffused with purple brown in front, and the staminode is broadly rounded, with three prominent teeth in front, and strongly reticulated with green. The flowers will probably improve in size when the seedling becomes stronger. C. superciliare is a hybrid between C. barbatum and C. superbiens, both of which have been crossed with C. Fairrieanum, yielding respectively C. vexillarium and C. Edwardii, and the present hybrid may be described as fairly intermediate between the two latter.

## YELLOW VARIETIES OF LÆLIA TENEBROSA.

Two beautiful yellow varieties of Lælia tenebrosa have been sent from the collection of A. Warburton, Esq., Vine House, Haslingden (gr. Mr. Dalgleish), namely the Walton Grange variety and Victor Warburton, to show how very distinct they are. Mr. Warburton remarks that they were shown in London some years ago and were reported as both the same variety, which is certainly not the case. Now that he has succeeded in getting them in bloom together he has had them painted, and has sent a flower of each that their difference may be recorded.

THE WALTON GRANGE VAR. appeared nearly twenty years ago, in the collection of W. Thompson, Esq., Walton Grange, Stone, and received a First-class Certificate from the R.H.S. on August 8th, 1893, when its characters were recorded (*O.R.*, i. pp. 268, 287). The flower now sent by Mr. Warburton has the sepals and petals bright canary yellow, the petals measuring 4 inches long by 1¼ inches broad, and rather reflexed at the margins, and the lip 3¾ inches long, with a white base and apex, and the throat dark purple, with some purple veining which extends almost to the white margin. The flower is from an authentic plant, and agrees well with others that we have previously seen.

VAR. VICTOR WARBURTON appeared in the collection of A. Warburton, Esq., Vine House, Haslingden, about four years later, and received a First-class Certificate from the Manchester and North of England Orchid Society on July 1st, 1897 (*O.R.*, v. p. 252). It also received an Award of Merit from the R.H.S. on June 27th, 1899 (*O.R.*, vii. p. 250). The flower now sent has clear apricot-yellow sepals and petals, the latter measuring 3½ inches long

by $1\frac{3}{8}$ inches broad, while the lip measures $3\frac{1}{4}$ inches long, and the base and apex are white, with some clear red-purple in the throat, sharply defined below, and not extending far into the white area above. The lip and petals are broader and much shorter than in the preceding variety, and the petals are flatter and more expanded, while the purple in the throat is much lighter in colour, and covers a smaller area, leaving more white at the much reflexed apex. The two are really very distinct, both in shape and colour, and the differences can be appreciated when one can compare them side by side.

The Walton Grange variety has been used for hybridising, being the seed parent of the beautiful Læliocattleya luminosa aurea, raised in the collection of Lt.-Col. Sir George L. Holford, K.C.V.O., which received a First-class Certificate from the R.H.S. in October, 1911 (*O.R.*, xix. p. 342), in which the yellow colour of the sepals and petals has been largely perpetuated, with an improved shape, owing to the influence of Cattleya Dowiana aurea.

## LEAF SPOT OF ODONTOGLOSSUM.

I AM interested in your remarks about Orchid Spot in the last issue of the *Orchid Review* (page 239). I have only a house of Odontoglossums here, where I grow some 500 plants, and I have noticed during the last two months that several of them have behaved like your correspondent's Læliocattleyas. I observe that, in my case, the spot always occurs on one of the old leaves—none of the new growths nor the leaves on the last bulb being affected. My house has sunshine from the East and South (shaded, of course, with blinds), and I ventilate freely, both top and bottom. I thought it might be caused by overwatering during the recent hot days, so I am keeping them now on the dry side, but I am also wondering whether we are about to find that we can have too much osmunda fibre in the potting material, which, in the second year, decays so much that it is practically reduced to a mould, and unless we repot annually we shall have trouble, as we did years ago when using too much Belgian leaf-soil. I send you three of the diseased leaves, and may say that I have about twenty-five plants affected.

Hove, Sussex. H. NYE.

---

It has often been remarked that the spot disease of Orchids is due to some cultural defect, but in the case of Odontoglossums it is sometimes caused by a definite parasitic fungus. About six years ago, when I was at Burford, there was a disease among the Odontoglossums, which affected the leaves, forming black blotches on the under surface, but it only appeared spasmodically, and was easily kept in check by cutting off the worst infected leaves and sponging any others on which small blotches appeared. I sent some affected leaves to an expert, who had done some

good work as a pathologist, and he reported that the mischief was caused by a parasitic fungus. This fungus passes into the intercellular spaces of the leaves by way of the stomata, and uses up the protoplasm. It then turns to the process of reproduction, and throws out spore-bearing threads through the stomata, and the green colouring matter then disappears in a circular patch, which ultimately becomes black. The grower now sees that something is wrong, and if an examination is made with a low-power microscope the little propagating bodies can be seen at the end of small branchlets. It is at this stage that the disease is most infectious, and these minute bodies are easily conveyed from leaf to leaf, where they germinate and form new centres of infection.

In 1908 I was working in the collection at Leyswood, Groombridge, Sussex, and suddenly nearly every plant in two medium-sized houses was attacked, and the disease soon showed the amount of damage it was capable of doing by the quantity of leaves that went off in the fortnight or so which it took to cope with it. During this time drastic measures were taken; the leaves were well sponged, and the very bad cut off and burnt; the pots, stages, walls, &c., were well scrubbed, and the latter lime-washed; the houses were also damped periodically with strong soot water, and the plants sprayed with weak soot water about twice a week. By these diligent and strenuous methods the pest was kept in hand and eventually eradicated.

Since then I have had some experience with the same thing at Kew, and, with the help of a friendly amateur grower, have conducted some experiments on plants attacked by the same fungus in his collection. The first was to ascertain whether it could be made to thrive on plants of any other genus of Orchids, the testing plants being Oncidium macranthum, O. serratum, and Ada aurantiaca, but on none of them did the disease make its appearance. By the same method it was easy to get leaves infected on any of the Odontoglossums of the crispum set that were used. It also seems partial to Odontiodas, which, of course, are half derived from Odontoglossum. The disease appears to be confined to the older leaves.

Kew. CYRIL WARREN.

---

This disease was first observed in 1892 on the leaves of Odontoglossum crispum growing at Versailles. Infected leaves were sent by M. Ed. André, Editor of the *Revue Horticole*, to the Laboratory of Plant Pathology at Paris, and in the following year a report by MM. Prillieux and Delacroix was published in the *Bulletin de la Société Mycologique de France*, stating that the disease was caused by a new fungus, Cercospora Odontoglossi, which was then described and figured (1893, p. 270, t. 13, fig. 2). The disease was doubtless introduced from Colombia with Odontoglossum

crispum, and has probably occurred in many collections, but such cases appear to have escaped record. I have examined microscopically leaves of Odontoglossum sent to the Editor by Mr. Nye, and also those of a plant in the Kew collection, and find them badly infected with this fungus.

The first sign of the disease is the change in colour of the leaves to a sickly yellowish green. This is soon followed by the appearance, here and there, on the lower surface of the leaf, of olive-green, ill-defined blotches, each covered with a delicate floccose mould, which is later coated with a fine greyish powder.

A section through the leaf at a disease point shows the brown shrivelled tissue permeated by mycelium—at first colourless but when older changing to a pale brownish green. From this mycelium clusters of erect, sinuous, sometimes branched conidiophores are formed, which burst through the epidermis of the leaf and produce, at the tips of their branches, long narrow tapering conidia, at first continuous but at maturity becoming two or three chambered. These conidia are set free in great numbers and form the greyish powder previously mentioned. Each under favourable conditions is capable of infecting a new plant.

Only the older leaves appear to be attacked, but when once the disease has obtained a foothold it kills the leaves in rapid succession.

Infected plants should be isolated where practicable, and all the badly diseased leaves removed and *burnt*, the remainder being sponged at intervals with a weak solution of copper sulphate. Where the disease in rampant such drastic measures as those used by Mr. Warren may be employed.

F. W. ROLFE.

## EXPORTING ORCHIDS BY POST.

WE have received from Baron R. Kawada, Tokyo, Japan, a photograph showing a very ingenious method of packing Orchids for long distances by post, which has been adopted by Messrs. J. & A. A. McBean, of Cooksbridge, by which the handsome Cymbidium Schlegelii and other hybrid Cymbidiums have been sent to Japan *via* Siberia. Three boxes were sent, on March 27th, 28th, and April 1st, each containing two plants, and, in spite of the early date, Baron Kawada remarks that they arrived in perfect condition, not a sheath or leaf having changed its natural colour, and every root was fresh. The box is lined with cotton wool, and the surface papered, which protects the plant from cold. The pots are firmly fixed, one at each end of the box, and there is an oblique longitudinal partition, forming cavities in which the leaves are carefully inserted, without any further wrappings, the longer ones being carefully curved over. Ventilation is ingeniously contrived by means of holes covered with gauze, and protected with cotton wool inside so as to moderate the cold air before reaching the

plants. The photograph shows one of the boxes with the lid turned back before the plants were removed, and the leaves appear to be in perfect condition. Baron Kawada expresses the highest satisfaction with the transaction, and hopes that others will avail themselves of such an excellent system.

## THE AMATEUR'S COLLECTION.

By C. ALWYN HARRISON, F.R.H.S.

### COOL HOUSE.

ALTHOUGH fire heat is not usually needed until the end of this month, yet, should the present inclement weather continue, it will doubtless be needed now on damp and chilly nights, for on no account must all ventilation be withheld early in the afternoon, in order to retain enough heat in the house for the night and save lighting a fire. But artificial heating should not be employed unless really required, for it would tend to make the plants delicate, whereas they should, from now onwards, be hardened off, to enable them to withstand the coming winter months—a trying and unnatural season for all Orchids. Give more light, by only lowering the shading from midday till two p.m., and then only if the sun is strong. Damping down should now be limited to three times daily, at eight a.m., at midday, and, if necessary, at three p.m. Be careful not to overwater any Orchid, and, as a general rule, the following may serve as a rough guide. Water all growing and flowering plants every other day, and those at rest every four or five days. Admit as much air as possible, as this will help growing plants to ripen their pseudobulbs, well-matured growths being the precursors of strong flower spikes.

This month is an ideal one for the general overhauling of the house, and the stagings should be cleared of all plants, every corner of the house and between the laths of the staging should be syringed with a strong insecticide, the glass well scrubbed inside and out, especially on the latter, to remove the liquid shading or other deposit, the ashes or coke under the staging raked over, and all pots and pans well cleaned. Then re-arrange the plants, at the same time cutting away and destroying any decayed pseudobulbs or decayed leaves.

As regards positions, I would refer my readers to the article for March, 1911, but a few of the main suggestions may be repeated, Odontiodas, small seedlings, and any Odontoglossums with the undermentioned as parents—Harryanum, amabile, Edwardii, Hallii, Uroskinneri—at the warmest end of the house, and Cypripedium insigne, villosum, Odontoglossum crispum, and Pescatorei at the coolest end. The house should be gay with many of the early autumn Odontoglossums, such as Alwyn, Crawshayanum, Hallio-triumphans, Charlesworthii, Mariæ, Goodsonii and many others.

### CATTLEYA HOUSE.

Since the lowest night temperature for this and the following month should be 60° Fahr., it is obvious that, for this house at any rate, fire heat is now imperative. Now that the summer has nearly passed, preparations must be made for the approaching winter, and this house should now be thoroughly overhauled, as has been just advised for the Cool house, and all plants carefully graded according to their requirements of heat and light. Place all Cattleya hybrids with the following as parents at the warmest end: C. Dowiana aurea, Warscewiczii (gigas), maxima, Skinneri, Eldorado, Lælia cinnabarina, and superbiens. As soon as Dendrobiums have finished their growth, they must be moved to the coolest end to rest.

Be sure to remove all the liquid shading from off the roof glass, and the blinds will no longer be needed, as all possible light will be necessary to mature the forming bulbs.

Damping down will be needed usually three times daily, as mentioned under the Cool house, and watering in the same proportion. Admit as much air as is consistent with maintaining the correct temperature, *i.e.*, by day 65-75° Fahr. and 60-65° Fahr. at night. Many beautiful Orchids should now be in full bloom, particularly Cattleyas Dowiana aurea, Empress Frederick, Warscewiczii (gigas), Harrisoniana, Minucia, and others.

Except for a brief three weeks, the sunshine this year has been by no means sufficient for Cattleyas, and I fear in some districts some of the winter-flowering C. Trianæ will be weak. We generally regard August as a month in which cloudless sun will mature the bulbs of such Cattleyas as Percivaliana and Trianæ.

Having been successful of late with the raising of seedlings of Cattleyas in a greenhouse, I shall explain my method of culture in next month's article, together with the special culture of certain shy-flowering but beautiful Cattleyas.

## OBITUARY.

F. M. BURTON.—A veteran Orchidist passed away on May 16th last in the person of Mr. F. M. Burton, F.L.S., F.G.S., Highfield, Gainsborough, at the age of 83. He had been an Orchid grower for about thirty years, and a subscriber to the *Orchid Review* and an occasional correspondent from the commencement until about a year ago, when age and failing health necessitated his relinquishing a favourite pursuit. He was greatly interested in hybridisation, and raised a good number of Cypripediums, though generally to find that they had previously flowered elsewhere, as in the case of C. Burtoni and C. highfieldense. But he was more fortunate with a handsome Epidendrum raised from E. ibaguense and E. O'Brienianum, which was described in these pages in 1899, under the name of E. Burtoni

(*O.R.*, vii. pp. 73, 135), and of which we received six splendid inflorescences four years later, showing great variation in colour (*O.R.*, xi. p. 134). He had also a fine collection of herbaceous and hardy plants, including many which he had himself collected during his travels.

## THE HYBRIDIST.

ONCIDIODA COOKSONIÆ.—We have received from Mr. H. J. Chapman, gardener to Mrs. Norman Cookson, Oakwood, Wylam-on-Tyne, a flower of a very striking hybrid derived from Cochlioda Nœtzliana crossed with the pollen of Oncidium macranthum. The plant is very small, and at present only bears a spike of three flowers. The flower sent most resembles the Cochlioda parent, both in shape and colour, but is much enlarged, measuring just over two inches from tip to tip of the petals, while the influence of the Oncidium parent is distinctly seen in the shape of the sepals and petals, in the crest of the lip, and in the way the column diverges from the base of the lip. The sepals and petals are uniformly deep crimson in colour, and the front lobe of the lip rather paler, with a light apex and a deeper yellow crest. As regards shape, we may add that the segments are spreading or slightly reflexed; the dorsal sepal broadly elliptical, and the lateral pair rather longer and shortly stalked; the petals larger and more ovate, and the lip strongly three-lobed, with spreading oblong side lobes and a broader front lobe. The crest of the lip consists of seven acute teeth, and the column wings are broadly auriculate. It is a remarkable hybrid, and should develop into a handsome thing when the plant becomes strong.

USE OF MIXED POLLEN.—We have been asked whether the use of mixed pollen, that is pollen derived from different varieties of the same species, is likely to result in an increased amount of variation in the resulting batch of seedlings. It is difficult to say absolutely, but it is at least possible that increased variation might result. If the pollen tubes descended the tissues of the styles together, and each fertilised a few ovules, which subsequently matured and germinated, one would expect to obtain the same varieties as if the seeds were borne by different capsules on the same plant. But it is by no means certain that events would follow the desired course, and in any case one would have to preserve every seedling from the batch in order to ensure every possible variation. On the whole we should deprecate such experiments, at all events from a practical standpoint, and should prefer that every cross should be undertaken separately, and with some definite object in view. The use of pollen from different species would be still more uncertain, and from the difficulty of subsequently identifying the seedlings is to be strongly deprecated.

## DENDROBIUM NOBILE RAPPARTIANUM.

THE Orchids which succeed best under the conditions I can offer are undoubtedly Dendrobiums of the nobile section, and my collection includes most of the best varieties. I send you a photograph of one which is little known, and, in my estimation, is one of the most beautiful of them all, both from its distinctive shape and exquisite colouring. It first appeared in the collection of Mr. D. Rappart, of Liscard, who was fortunate enough to flower several Orchids which were unique, and which still exist under his name. Dendrobium nobile Rappartianum received an Award of Merit from the Manchester Orchid Committee when it was first shown, and my friend

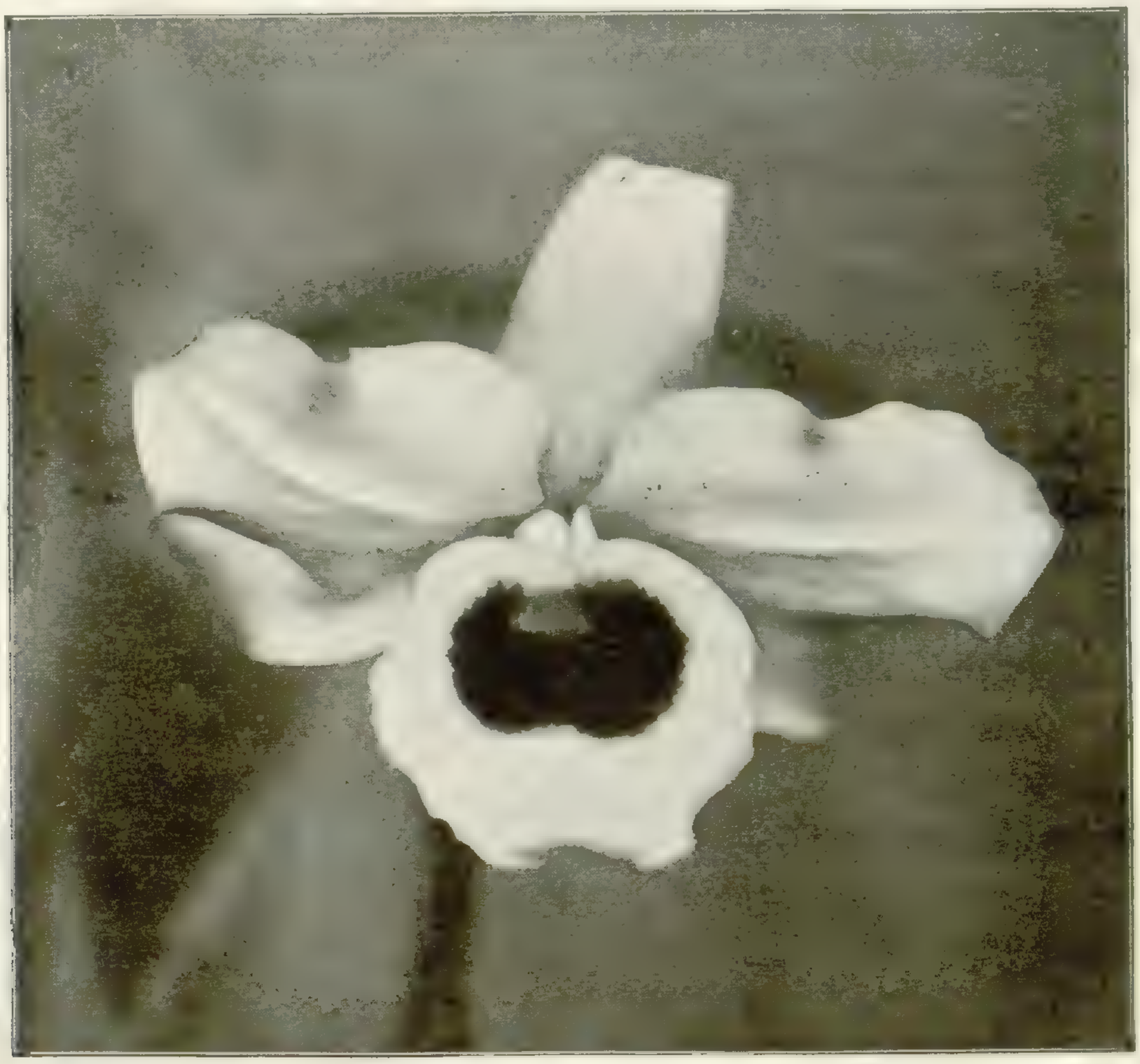

Fig. 35. DENDROBIUM NOBILE RAPPARTIANUM.

gave me a piece of it, which I have assiduously propagated since, and until a recent show of the local Horticultural Society, when a fine specimen, magnificently flowered, was exhibited by a well-known Liverpool amateur, I thought I had "a corner" in its possession. The flower photographed is five inches across without spreading, but is, perhaps, abnormally large because it is a single one. It is waxy white, except the tips of the petals and the unusually large dark blotch on the lip.

FRANCIS H. MOORE.

Royal Infirmary, Liverpool.

## CALENDAR OF OPERATIONS FOR SEPTEMBER.

By J. T. BARKER, The West Hill Gardens, Hessle, E. Yorks.

THE temperatures and the general treatment advised in previous numbers must still be adhered to, owing to the large amount of dull sunless weather we have experienced. In the warm houses it will still be advisable to ventilate more freely and maintain the temperatures with additional fire heat, owing to the amount of humidity in the outside atmosphere. By these means it will be found that the plants will build up and solidify their growths, which will enable them to pass through the winter much better than would otherwise be the case.

SHADING, on bright days, must be used, to prevent scorching, but in no case should the blinds be brought into use more than is necessary. I should always be kept in mind that light, air, and heat are essential to plant culture in their proper proportions, especially under the artificial conditions of glass houses.

DAMPING DOWN, as the days shorten, must be done less frequently, according to the amount of moisture in the outside atmosphere, but a moist, genial growing temperature must be maintained in all departments. The two extremes must be avoided, a hot, dry atmosphere is as harmful as a too cold one.

COOL HOUSE.—The recent weather has been to the liking of the inmates of this department, and any which suffered from the excessive heat of last year have by this time fully recovered. No warmth from the hot water pipes should be required during this month. Keep the temperature as low as possible during bright weather, and ventilate freely, both night and day, on all favourable occasions.

WATERING.—Owing to the amount of moisture in the atmosphere, evaporation will be much less than in clear sunny weather, and, therefore, the plants will require less water, and great discretion should be exercised. No plant should have water applied unless it requires it. I am firmly convinced that more errors are made with the watering of our plants than with anything else.

CYPRIPEDIUMS will now be pushing up their flower spikes, and these should be neatly tied to stakes to prevent their becoming twisted, as it is with great difficulty they are got into a perpendicular position if allowed to hang over the sides of the pots. Plants of the summer-flowering section, such as C. I'Ansonii, C. Schillianum, C. J. H. Veitch, and others of this class, as they pass out of bloom, may be repotted, should it be necessary. This class of Cypripedium is most useful, and forms a very desirable section of an interesting family.

CATTLEYAS, LÆLIAS, AND THEIR HYBRIDS.—During this month every

effort should be made to repot as many as possible of this class of plants that may require it, as they attain the desired condition, for the sooner they are established in the new material the better. Cattleya Warscewiczii (gigas) is one of the numerous subjects that will require attention during the present month, and no plant that I know pays better for any attention bestowed upon it to induce it to produce its most lovely flowers.

MILTONIAS.—Plants of Miltonia vexillaria, and its hybrids, that were not repotted as advised last month, should be done as they reach the desired condition.

DENDROBIUMS.—The plants of this genus must be gone through at intervals, and those that have matured their growth removed to cooler and lighter quarters, as advised last month. The amount of moisture, both at the roots and in the atmosphere, must be considerably reduced, but absolute dryness of the rooting material must be strictly guarded against. It is essential that these plants should be exposed to plenty of light and air to consolidate their growths. Plants that are still growing should have every inducement given them to complete their growths as quickly as possible, so that they may be treated in like manner. Plants of D. Phalænopsis are fast pushing up their flower spikes, and this is an advantage, especially where autumn fogs are prevalent, as these have a pernicious effect on these beautiful flowers. The plants must not be allowed to suffer for want of water at any time, and until their flower spikes are removed the supply must be ample, after which much less will suffice. D. formosum, having finished growing, is about to expand its lovely white flowers. It blooms at a season when Orchid flowers are scarce, and is doubly useful on this account, so that it should be grown freely wherever its requirements can be satisfied. The treatment required at this season is precisely the same as advised for D. Phalænopsis. Evergreen Dendrobiums, such as D. Farmeri, D. thyrsiflorum, &c., are now in full growth, and when they have reached maturity they should receive similar treatment to that afforded to the deciduous species of this useful family of plants.

ODONTOGLOSSUMS.—At the present time there are large numbers of Odontoglossums, both species and hybrids, that have started well into growth, and where these plants are cultivated largely it is advisable to commence to repot them as early in this month as possible, taking the earliest plants first, and following on with the others as they become ready. The compost advised for Miltonias last month will answer their requirements, but they should be potted a little firmer than the former. Should the weather be bright the plants must be carefully shaded until they become re-established. They must have as much fresh air as possible, especially when the outside temperature exceeds 50°, and the atmosphere is humid. Should, however, the outside conditions be hot and dry, it will be

advisable to dispense with the top ventilators during the day-time, and bring them into use during the night. Any excess of water to the newly-potted plants must be strictly guarded against, but a greater degree of humidity in the atmosphere may be maintained to prevent the compos becoming over dry.

PLEIONES.—Plants which have now completed their growth for the season, may be exposed to more light and air as the leaves turn yellow. The water supply must also be considerably reduced, the compost being only kept moist, to encourage the flowering growths. P. humilis being still in full growth must have water afforded it, whenever it becomes dry.

ONCIDIUMS that are pushing up their flower spikes should be placed in a light position, where they may receive a fair amount of air. O. ornithorrhynchum, and others, which have been growing in the Cool house, will be better taken into the Intermediate house for the winter months. Such species as O. Forbesii, O. varicosum, and other Brazilian species, as their flower spikes become long enough, should be neatly tied up to stakes, and be carefully watched for slugs, which are very fond of the young tender spikes. After flowering they should be rested, as these plants delight in a long, decided rest, but should not be allowed to shrivel.

MASDEVALLIAS.—We have now reached the season of the year, when members of this interesting genus will need attention. Such species as M. ignea, M. Harryana, M. Lindenii, M. Veitchii, and many others which have passed out of bloom, should they require new rooting material, are best potted at this season of the year. For a compost I use the following: One part each of osmunda fibre, peat fibre, polypodium fibre, and sphagnum moss, mixed well together. The strong growers may have a small quantity of loam fibre, from which all the earthy particles have been removed, mixed with the compost. The compost should be made moderately firm, and the base of the plant should be kept on a level with the rim of the pot. Care must be taken that the pots are not too large. As Masdevallias require an abundant supply of root moisture when in full growth, the drainage must be perfect. M. Chimæra, and the different species which make up this section, with M. tovarensis and others which flower during the winter months, should have the potting delayed until February, when they will be pushing new roots, and are therefore in a fit condition for the operation. The black spots so frequently seen on the foliage of these plants are attributable to an excessive supply of moisture in the atmosphere, and at the roots, and a low cold temperature. Yellow thrip is the pest which attacks these plants, and if allowed a foothold will also soon disfigure the foliage.

HABENARIAS.—H. carnea and H. Suzannæ, as they pass out of bloom, should be given a complete rest, and being deciduous they require no water after the growth has died down. It is a mistake, however, to hasten this

process by withholding water altogether as soon as the flowers fade, and they should have water from time to time to enable the growth to ripen naturally. When the growths fall away, they should be placed in a light position in the Cattleya house, where no water will reach them. In the spring, when they commence to grow, they must be repotted, and returned to the Warm house.

VANDA CŒRULEA is now in its beauty, and, if all that has been written about this refractory subject could be gathered together, it would be interesting to learn the many methods adopted to grow this plant successfully and otherwise. I find them succeed well when grown with the Mexican Lælias, and elevated quite close up to the glass, giving them plenty of heat, light, moisture, and air when in full growth, and a long rest after flowering is completed.

ANGRÆCUMS.—These plants, with Saccolabiums, Aërides, Vandas, and other inmates of the Warm house, will now require slightly less water, both atmospherically and at the roots. Should they get an over supply of water at the roots at this season, or meet with a check through any other cause, an unnecessary loss of foliage may occur. The plants should be gradually inured to more light and air on all favourable opportunities.

GENERAL REMARKS.—We have now passed through the best part of the growing season, and must commence in earnest to make our plants comfortable for the winter months, placing each plant in suitable quarters according to their various requirements, and at the same time making them and their surroundings thoroughly clean. It is also wise at this season to thoroughly examine the roofs of the houses for cracked squares of glass, which should be removed, and new ones put in, as they are apt to cause drips, which may mean the loss of a valuable plant. Attention to detail is of the greatest importance to all plant cultivators, and according to the amount of assiduity displayed so will be their success.

## SOCIETIES.

### ROYAL HORTICULTURAL.

A MEETING of this Society was held at the Royal Horticultural Hall, Vincent Square, Westminster, on August 13th last, when the display of Orchids was rather small, but included some choice things, and the awards consisted of two First-class Certificates, four Awards of Merit, one Cultural Commendation, and one Medal.

Orchid Committee present: J. Gurney Fowler, Esq. (in the Chair), and Messrs. J. O'Brien (hon. sec.), Sir Harry J. Veitch, Gurney Wilson, W. Bolton, W. H. White, A. Dye, H. G. Alexander, J. E. Shill, W. P. Bound, W. H. Hatcher, W. Cobb, T. Armstrong, A. A. McBean, and W. Thompson.

The President, Sir Trevor Lawrence, Bart., K.C.V.O., Burford (gr. Mr. W. H. White, staged a small group of rare things, including a fine specimen of the orange-scarlet Lælia monophylla, Dendrobium glomeratum with over sixty of its bright rose-purple flowers, a plant of the interesting little Theodorea gomezoides bearing ten spikes, a good plant of Bulbophyllum odoratissimum, with another Bulbophyllum of doubtful identity, and examples of Odontioda Thwaitesii and Brassocattleya Joan.

E. H. Davidson, Esq., Borlases, Twyford (gr. Mr. Cooper), received a Silver Banksian Medal for a group of finely-grown plants, including Cattleya Venus var. Golden Glory, a brilliantly-coloured form, Læliocattleya Colmaniana, L.-c. Feronia superba, a finely-shaped form, Odontioda Thwaitesii Davidson's var., a very large flower, with claret-coloured sepals and petals and a lilac-purple lip, two forms of O. Schrœderi, differing in colour, O. Ruby, Odontoglossum Pamela, and a few others.

Messrs. Charlesworth & Co., Haywards Heath, staged a choice group, including the distinct and striking Stanhopea convoluta, Listrostachys Chailluana, a good Vanda Sanderiana, a well-flowered Dendrochilum filiforme, Oncidium luridum guttatum, Cypripedium Maudiæ, C. Rossetti, and other hybrids, noteworthy among them being Oncidioda cinnabarina, an interesting hybrid from Cochlioda Nœtzliana and Oncidium monachicum, and having rather small cinnabar red flowers, with stalked segments, approaching those of the Oncidium in shape.

Mr. S. Flory, Orchid Nursery, Twickenham, staged a small group, including Cattleya Gaskelliana alba, the rare Brazilian Oncidium Crœsus, Dendrobium regium, a large form of Brassolælia Helen, and a richly-coloured Læliocattleya.

### First-class Certificates.

Læliocattleya Glaucus (L. purpurata × L.-c. rubens).—A very fine hybrid, of dwarf habit, and bearing finely-shaped flowers most like those of the Læliocattleya parent, the sepals and petals being bright rosy mauve, with darker veining, and the lip very deep ruby red, with a bright yellow disc. Exhibited by Lieut.-Col. Sir G. L. Holford, K.C.V.O., Westonbirt (gr. Mr. H. G. Alexander).

Læliocattleya Godmanii (C. Iris × L.-c. callistoglossa).—A large and distinct hybrid, of excellent shape, having broad, deep purple-rose sepals and petals, and a large ruby crimson lip with a yellow disc. Exhibited by F. Ducane Godman, Esq., South Lodge, Horsham.

### Awards of Merit.

Brassocattleya Ilene (C. Dowiana × B.-c. Maroniæ).—A very fine hybrid, having well-shaped flowers, with rose-coloured sepals and petals, and a bright rose-coloured, fringed lip, with a yellow disc, rayed with purple at the base. Exhibited by Messrs. J. Veitch & Sons, Chelsea.

LÆLIOCATTLEYA LUMINOSA VAR. MANDARIN (L. tenebrosa Walton Grange var. × C. Dowiana aurea).—A large and handsome form, having bright chrome yellow sepals and petals, and a claret purple lip, with paler margin. Exhibited by Lieut.-Col. Sir G. L. Holford.

ODONTOGLOSSUM EMPRESS EUGENIE (parentage unrecorded).—A large and beautiful hybrid having waxy white sepals and petals, with a mauve suffusion and some darker spotting, and a broad flat white lip, with some purplish blue spots in front of the yellow crest. It may be a secondary hybrid of O. Rolfeæ. Exhibited by E. H. Davidson, Esq.

ODONTOGLOSSUM NIGRESCENS (Edwardii × cirrhosum).—A very distinct and attractive hybrid, most like O. cirrhosum in shape, but with shorter, broader segments, blackish purple in colour, with pale tips and a small white base to the petals, while the lip is more chocolate-coloured, with a pale tip and a yellow disc. Exhibited by Messrs. J. & A. A. McBean, Cooksbridge.

### CULTURAL COMMENDATION.

CATTLEYA TACITUS (Grossii × Germania superba).—To Mr. H. G. Alexander, gr. to Lieut.-Col. Sir G. L. Holford, for a remarkably strong plant, the last growth being four feet long, and bearing a very fine spike of flowers.

---

At the meeting held on August 27th there was a good display of Orchids, and the award list contained five medals, five Awards of Merit, and one Cultural Commendation.

Orchid Committee present: J. Gurney Fowler, Esq. (in the Chair), and Messrs. J. O'Brien (hon. sec.), W. Bolton, Gurney Wilson, de B. Crawshay, A. Dye, H. G. Alexander, J. E. Shill, W. H. Hatcher, W. Cobb, A. A. McBean, T. Armstrong, F. J. Hanbury, Stuart H. Low, R. A. Rolfe, Sir Jeremiah Colman, and Sir Harry J. Veitch.

E. H. Davidson, Esq., Borlases, Twyford (gr. Mr. Cooper), staged a very fine group, to which a Silver-gilt Flora Medal was awarded. It contained some specially well-grown Odontoglossums. including O. Rolfeæ with three immense branched spikes, forming quite a picture, O. spectabile with two spikes, each four feet long, O. percultum, O. Ceres Davidson's var., O. Nathaniel, having well-shaped flowers, the sepals and petals almost solid claret-purple, margined with lilac, and the lip with a much broader white margin, O. armainvillierense, good forms of Cattleya Fabia, C. Dowiana aurea, C. Adula. C. Rothschildiana Borlasses var., having white flowers with a yellow throat to the lip and some purple veining on the front lobe, Læliocattleya Colmaniana Borlases var., a fine dark form, and Sophrocattleya Pandora, with a fine crimson flower.

H. T. Pitt, Esq., Rosslyn, Stamford Hill (gr. Mr. Thurgood), received a

Silver Banksian Medal for a fine group, including Cattleya Dowiana aurea, C. Clarkiæ, C. suavior, two distinct forms of C. Source d'Or, Læliocattleya Delicia (C. Harrisoniana alba × L.-c. Constance Wigan), a charming white flower with yellow disc to the lip, L.-c. Argus (C. intricata × L.-c. Ingramii), Brassia brachiata and longissima, Angræcum Scottianum, Chondrorhyncha fimbriata, Bulbophyllum barbigerum, Odontoglossums, Miltonia vexillaria rubella, Cypripedium Maudiæ, Neptune, Wottonii, Fascinator, Richmanii, Felicity, Baron Schröder var. ardens, and others.

J. S. Bergheim, Esq., Belsize Court, Hampstead (gr. Mr. H. A. Page), sent a remarkable Bulbophyllum, allied to B. calamarium, having a broad, very hairy brown lip, and whitish sepals, which exude pearl-like drops of liquid from the back.

J. Gurney Fowler, Esq., Glebelands, S. Woodford (gr. Mr. J. Davis), sent a very fine plant of Cypripedium Daisy Barclay (Godefroyæ leucochilum × Rothschildianum), bearing a three-flowered inflorescence, the flowers heavily blotched with purple brown on a cream-yellow ground.

J. J. Neale, Esq., Lynwood, Penarth (gr. Mr. H. Haddon), sent Epidendrum laterale, a curious little plant bearing two spikes of green flowers from rudimentary growths, as in E. Stamfordianum.

Messrs. Sander & Sons, St. Albans, staged a fine group, including a good plant of Bulbophyllum virescens with an umbel of nine green flowers, B. galbinum, B. cylindraceum, B. congoense, Catasetum maculatum, some good forms of Læliocattleya Walter Gott. L.-c. Wellesleyæ (C. Warscewiczii × L.-c. Martinetii), L.-c. Fabia (L.-c. bletchleyensis × elegans), forms of Cattleya Rothschildiana, C. nobilior (granulosa × Warneri), Brassocattleya Maroniæ, and other good things (Silver Flora Medal).

Messrs. Charlesworth & Co., Haywards Heath, staged a small and very choice group, including a remarkably fine specimen of Houlletia Wallisii, bearing four spikes of yellow flowers spotted with brown, a very fine plant of Aërides Lawrenceæ var. Sanderiana with three spikes, Polycycnis muscifera with two fine spikes, Cattleya Gaskelliana alba, Angræcum falcatum, Cœlia macrostachya, a fine plant of Miltonia Schrœderiana with three spikes, M. Cogniauxiæ, Calanthe violacea, two plants of Pescatorea Roezlii, one bearing eleven flowers on rather short scapes, Mormodes luxatum, Læliocattleya eximia, and others (Silver Banksian Medal).

Messrs. Stuart Low & Co., Bush Hill Park, Enfield, staged a good group, including a very fine specimen of Lælia crispa, with five spikes, a number of Dendrobium Phalænopsis, some good Oncidium varicosum, incurvum, and longipes, Anguloa Ruckeri, Catasetum callosum, Physosiphon Loddigesii, Odontioda Charlesworthii, Bifrenaria tetragona, Lycaste leucantha, Cypripedium Juno, Odontoglossum Rolfeæ, Cattleyas, and Læliocattleyas (Silver Banksian Medal).

Messrs. Armstrong & Brown, Tunbridge Wells, showed Cypripedium memoria Alma Gevaert (Lawrenceanum Hyeanum × Maudiæ), a very finely shaped flower, with broad dorsal sepal and spreading somewhat curved petals, the colour being wholly white and green, as in the parents, also C. Clara Armstrong (Germaine Opoix × Prewettii), a finely-shaped flower, most like the former parent, but hardly so bright in colour.

Messrs. A. J. Keeling & Sons, Westgate Hill, Bradford, staged a pretty little group, including four plants of Vanda cœrulea, the rare Eria rhynchostyloides, Cattleya Harrisoniana violacea, Cypripedium Ultor, C. A. de Lairesse, and C. Charlesworthii. They also exhibited examples of Smith's Pollen-preserving Tubes.

Messrs. Mansell & Hatcher, Rawdon, E. Yorks, sent plants of Trichopilia laxa, Acineta densa, and Brassia caudata.

Messrs. J. & A. A. McBean, Cooksbridge, sent a fine plant of Cochlioda Nœtzliana, Maxillaria grandiflora with seven flowers, a good Vanda Sanderiana, two fine plants of Oncidium Mantinii, three plants of Cattleya Dowiana aurea, C. Iris, Odontioda Charlesworthii, and a few good Odontoglossums.

## AWARDS OF MERIT.

ANGRÆCUM O'BRIENIANUM.—An interesting species from Western Uganda, with broad coriaceous leaves, and bearing five drooping racemes of white flowers, with recurved acute segments, and a curved spur, tipped with yellowish brown. Exhibited by J. S. Bergheim, Esq., Belsize Court, Hampstead.

LÆLIOCATTLEYA AMABILE BORLASES VAR. (C. Lueddemanniana × L.-c. Fascinator).—A large and handsome flower, with broad blush white sepals and petals, and a crimson-purple lip with a yellow throat. Exhibited by E. H. Davidson, Esq., Borlases, Twyford.

LÆLIOCATTLEYA GOLDEN FLEECE (L.-c. Golden Gem × C. Dowiana aurea).—A beautiful deep golden yellow flower, with the disc and side lobes of the lip reddish crimson, with golden veining, and the front lobe buff yellow. Exhibited by Lt.-Col. Sir George L. Holford, K.C.V.O., Westonbirt (gr. Mr. H. G. Alexander).

ODONTIODA EUTERPE DAVIDSON'S VAR. (O. Uroskinneri × C. Nœtzliana).—A striking hybrid, bearing a fine inflorescence of deep bronzy crimson flowers, with a whitish zone inside the margin of the broad front lobe. Exhibited by E. H. Davidson, Esq.

ODONTOGLOSSUM HELENE (parentage unrecorded). — A fine hybrid, bearing an inflorescence of seven flowers, heavily blotched with claret colour. Exhibited by E. H. Davidson, Esq.

## CULTURAL COMMENDATION.

CATTLEYA EUPHRASIA WESTONBIRT VAR. (superba × Warscewiczii).—To

Mr. H. G. Alexander, Orchid grower to Lt.-Col. Sir G. L. Holford, or a very strong plant, bearing an inflorescence of ten richly-coloured flowers, with a deep golden throat to the lip.

---

### BIRMINGHAM BOTANICAL AND HORTICULTURAL.

A SHOW of Orchids and Early Summer Flowers was held at the Birmingham Botanical Gardens, Edgbaston, on June 12th last, when a number of fine Orchids were exhibited.

W. Waters Butler, Esq., Southfield, Edgbaston (gr. Mr. Jones), received a Gold Medal for a large and elegantly-arranged group of Orchids, including some good varieties of Cattleya Mendelii and Mossiæ, well-flowered examples of Miltonia vexillaria Empress Victoria Augusta, M. v. gigantea, M. v. alba and M. Bleuana, some choice forms of Odontoglossum crispum, O. eximium E. C. Rogerson, O. Pescatorei Grand Duchess, O. ardentissimum concinnum, Læliocattleya Dora magnifica, L.-c. Canhamiana vars. Rex and Iolanthe, and other good forms, with plants of Vanda suavis, some well-flowered Cymbidiums, and Phalænopsis amabilis Rimestadiana in the centre. A First-class Certificate was given to Læliocattleya Martinetii Southfield var., a very beautiful form, having rich bronzy yellow sepals and petals, and a rich purple undulate lip.

Messrs. J. & A. A. McBean, Cooksbridge, received a Silver-gilt Medal for a very fine group, including a beautiful series of Miltonia vexillaria varieties, Cattleya Mossiæ and Mendelii, Læliocattleyas, Cœlogyne pandurata, Odontioda Charlesworthii, many finely-flowered examples of Odontoglossum crispum, Oncidiums, Renanthera Imschootiana, and others. Awards of Merit were given to Miltonia radiata and M. Hypatia.

Mr. E. V. Low, Vale Bridge, Haywards Heath, received a Silver Medal for a fine group, including Cattleya Mossiæ alba Leonora, a fine C. Skinneri alba, C. Fascinator, two well-bloomed Lælia purpurata Lowiæ, Læliocattleya Macfarlanei, Peristeria elata, Cœlogyne pandurata, Renanthera Imschootiana, Dendrobium Phalænopsis, Cypripedium callosum Sanderæ, C. Lawrenceanum Hyeanum, C. Godefroyæ leucochilum, C. Euryades splendens, and others. An Award of Merit was given to Cypripedium Goweri magnificum Schofield's var., a very fine form.

---

### MANCHESTER AND NORTH OF ENGLAND ORCHID.

A MEETING of this Society was held at the Coal Exchange, Manchester, on Thursday, August 22nd, 1912, when the members of Committee present were: Rev. J. Crombleholme (in the Chair), Messrs. J. C. Cowan, J. Evans, W. Hatcher, W. Holmes, J. Lupton, D. McLeod, Z. A. Ward, A. Warburton, and H. Arthur (Secretary).

Z. A. Ward, Esq., Northenden (gr. Mr. Weatherby), was awarded a

Silver Medal for a nice group, composed of Cattleyas of the Iris section, in several varieties, C. Harrisoniana, C. Atalanta and C. Adula var. Maronii. Cypripedium Daisy Barclay, Rossetti, A. de Lairesse, tixallense, Zethus, Lord Derby, and Transvaal.

Rev. J. Crombleholme, Clayton-le-Moors (gr. Mr. Marshall), was also awarded a Silver Medal for a group of Cypripediums, including radiosum, Dayanum, argenteum, Harrisianum superbum, callo-Rothschildianum, Transvaal, Lord Ossulston var. cherubicum, Rossetti, Niobe Westonbirt var., Charlesworthii, Baron Schröder, Lord Ossulston Crombleholme's var., and Morganiæ burfordiense.

J. McCartney, Esq., Bolton (gr. Mr. Holmes), staged a group, composed principally of Cattleyas and Læliocattleyas, the most noticeable being C. Gaskelliana, Ashtonii, Mrs. Pitt, Harrisoniana, Leopoldii, L.-c. Henry Greenwood, callistoglossa, Aphrodite, Herman Holmes, and Cypripedium Donald McCartney, a Silver Medal being awarded.

Eric H. Davidson, Esq., Twyford, Berks (gr. Mr. Cooper), staged a nice group, to which a Silver Medal was awarded. It included Cattleya Adula var. exquisita, Germania, Eva, Fabia, Gaskelliana alba, Læliocattleya Sandhage, Odontoglossum Jasper Davidson's var., O. Harryanum, and Sophrolælia heatonense.

Col. J. Rutherford, M.P., Blackburn (gr. Mr. Lupton), was awarded a Bronze Medal for a group, consisting of a nice collection of Epidendrum vitellinum, Odontoglossum Queen Alexandra and Andersonianum, Oncidium tigrinum, Cattleya Gaskelliana, Lælia tenebrosa Walton Grange var. × C. Maronii, and Cypripedium Maudiæ.

Messrs. Charlesworth & Co., Haywards Heath, were awarded a Silver Medal for a group, including Cattleya Gaskelliana alba and Iris, Læliocattleya Pelias, amabile, Ivernia, eximia, Odontoglossum ardentissimum, Odontioda Charlesworthii, Epidendrum vitellinum, Habenaria Susannæ, Platyclinis filiformis, a good Pescatorea Rœzlii superba, and Cypripedium Fletcherianum.

Messrs. A. J. Keeling & Sons, Bradford, were also awarded a Silver Medal for a mixed group, including Cypripedium Neptune, Ultor, Shillianum superbum, callo-Rothschildianum, Princess, Mrs. F. L. Ames, Penelope, triumphans, and the pretty C. philippinense, Vanda cœrulea, Odontoglossum grande, Cattleya Harrisoniana, and Cœlogyne corrugata.

Messrs. Sander & Sons, St. Albans, staged Cypripedium Franconia, Lady Wimborne, Lord Rothschild, Cattleya Atalanta Sander's var., Wincqxiana, Læliocattleya Radium, Britannia, Fabia, Gottoiana, and Brassocattleya Maroniæ.

### FIRST-CLASS CERTIFICATE.

Cattleya Ashtonii (Harrisoniana × gigas), a very good form, with a

round flower of good even colour, and the lip nicely marked; exhibited by Z. A. Ward, Esq.

AWARDS OF MERIT.

Cypripedium leyburnense magnificum, and Frau Ida Brandt; exhibited by the Rev. J. Crombleholme.

Cattleya Iris var. rubra, Odontoglossum Empress Eugenie (parentage unrecorded), Odontioda Thwaitesii Davidson's var., and O. Schroederi Davidson's var.; exhibited by Eric H. Davidson, Esq.

Cypripedium Hassallii (bingleyense × Charlesworthii); exhibited by Messrs. Hassall & Co.

## LISTROSTACHYS O'BRIENIANA.

IN June, 1892, Messrs. Sander & Sons, St. Albans, exhibited an Orchid at a meeting of the R.H.S. under the name of Angræcum O'Brienianum, which was briefly recorded as "a thick-leaved species of the Chailluanum class." Nothing further seems to have been recorded about it, and it is doubtful what has become of the original. It is recorded in the *Index Kewensis* (Suppl. i. p. 28) as Angræcum O'Brienianum, Hort. Sand., *Gard. Chron.*, 1892, i. 812, nomen (Quid?) Hab.? Another plant was exhibited at the meeting of the R.H.S. held on August 27th last, from the collection of J. S. Bergheim, Esq., Belsize Court, Hampstead, which Mr. J. O'Brien recognises as identical with that originally exhibited by Messrs. Sander. It was a fine plant, bearing five racemes, and received an Award of Merit. It is a Listrostachys, nearly allied to L. Sedenii, Rchb. f., but with distinctly broader leaves, these being coriaceous, shortly bilobed at the apex, and measuring 6 to 7¼ inches long by 1½ inches broad. The flowers are borne in arching racemes, about six inches long, and are white with an aromatic fragrance. The segments are recurved, acute from a broad base, and about ¾ inch long, and the curved tapering spur is 1½ inches long, with a brownish yellow apex. This plant was imported from Western Uganda. The habitat of Messrs. Sander's plant is unknown, but they had a collector on the Congo at about this period, and although they are not certain they think it probably came from there. It is interesting to be able to clear up the identity of the plant.

R. A. ROLFE.

## A CURIOUS CYPRIPEDIUM CROSS.

AN event which may interest readers of the *Orchid Review* happened last winter in my collection. Some few years ago I crossed a flower of an exceptionally broad-petalled Cypripedium Spicerianum with one of the yellow varieties of C. insigne, C. i. Youngianum. Some eight plants were reared, and until this year all produced spotted flowers of the usual C. Leeanum character, and of no particular merit. Last winter the remaining

plant—the weakest one—bloomed, and produced a flower which was, apparently, a pure C. Spicerianum. The foliage is identical with that of the other seedlings, and much narrower than those of the C. Spicerianum parent.

FRANCIS H. MOORE.

Royal Infirmary, Liverpool.

[We should like to see a flower of this plant when it blooms again, as the case seems anomalous. Assuming that the parents were both pure varieties of their respective parents, and that no Spicerianum pollen reached the stigma of the flower that produced the seed, this Spicerianum-like flower should be a form of C. Leeanum, however anomalous its characters, for it should be half-derived from C. insigne. One cannot attribute it to reversion, because C. i. Youngianum is not a form of C. Leeanum. If an unfertilised ovule of C. Spicerianum had developed parthenogenetically, as has been suspected in the case of *Zygopetalum* crossed with Odontoglossum, the case would be explained, but it has yet to be proved that such a thing takes place. Has any other reader had a similar experience?—ED.]

## ORCHIDS IN SEASON.

A FINE form of Læliocattleya Bryan (Lælia crispa ♀ × Cattleya Gaskelliana ♂) is sent from the collection of E. F. Clark, Esq., Evershot, Dorset. The cross was made in September, 1902, and it is said that the pollen of three varieties of the Cattleya were used, but whether this would lead to an increased amount of variation in the progeny remains to be seen. The flowers sent are fairly typical, having lilac-purple sepals and petals, and a deep purple well-crisped lip, with a reddish orange suffusion in the throat, but not so much veining as in some other hybrids of Lælia crispa. Læliocattleya Bryan was originally raised in the collection of the late Mr. Norman C. Cookson.

## ORCHID NOTES AND NEWS.

Two meetings of the Royal Horticultural Society will be held at the Royal Horticultural Hall, Vincent Square, Westminster, during September, on the 10th and 24th, when the Orchid Committee will meet at the usual hour, 12 o'clock noon.

A Silver Cup has been kindly offered by Mr. Eric H. Davidson, Borlases, Twyford, for competition at the coming Autumn Show.

The next meeting of the Manchester and North of England Orchid Society will be held at the Coal Exchange, Manchester, on September 5th. The Committee meets at noon, and the exhibits are open to inspection of members and the public from 1 to 4 p.m. The following meeting will be held on October 3rd.

The following prizes are offered for the coming year, in addition to those mentioned at pp. 255, 256 :—

DAVIDSON'S SILVER TROPHY, for Odontoglossums, to include species, varieties, and hybrids, also Miltonia vexillaria and M. Roezlii, with all varieties or hybrids obtained from them. Odontiodas, *i.e.*, any form of Odontoglossum crossed with Cochlioda or Mesospinidium, will be included in this competition. This trophy is presented by Mr. Eric H. Davidson, Twyford, Berks., and is to be won by the Amateur who gains the largest number of points during the Session. A prize of two guineas will be awarded to the gardener of the winner.

SANDER PRIZES.—A first prize of three guineas, second prize of two guineas, and third prize of one guinea to the gardener exhibiting the greatest number of groups during the Session. These prizes are presented by Messrs. Sander & Sons, St. Albans.

SOCIETY'S PRIZES.—The Society offers a Gold Medal, Silver-gilt Medal, and Silver Medal for the Amateur who (not engaged in other competitions) gains respectively the highest, second highest, and third highest number of points from July 11th, 1912, to May 1st, 1913.

Similar awards, under similar conditions, will be made to Amateurs who grow Orchids without the aid of a gardener; a minimum of 25 points to qualify for the Gold Medal.

The usual Medals will be awarded for occasional groups where not engaged in other competitions. A group to consist of not less than twelve plants.

We have received a photograph of a fine house of Odontoglossums in the establishment of Messrs. J. & A. A. McBean, Cooksbridge. It shows a beautiful series of white and spotted forms of O. crispum. The house is one of three, each 100 feet by 16 feet, and the photograph was taken in May last. The Establishment has long been celebrated for the excellent culture of these beautiful plants.

We have received a photograph of a handsome Bouquet of Orchids grown at Rosefield, Sevenoaks, Kent, and presented to Her Majesty the Queen by Mr. de Barri Crawshay on their Majesties The King and Queen visiting Hirwain on June 27th, 1912. The bouquet is composed of Odontoglossums and Asparagus.

R.H.S. SCIENTIFIC COMMITTEE.—The following references to Orchids exhibited at the meetings of the Committee are taken from the Official Report (continued from vol. xix., p. 375) :—

December 5th, 1911 : DOUBLE ODONTOGLOSSUM CRISPUM.—Mr. Gurney Wilson, on behalf of Mr. Jensen, showed a double flower of Odontoglossum

crispum. The two outer whorls were normal, but the stamens had apparently developed and become petaloid. The plant showed the same peculiarity each year.

January 9th, 1912 :—

MALFORMED CYPRIPEDIUM.—Mr. Gurney Wilson showed flowers of a Cypripedium seedling without a labellum, from Messrs. James Veitch & Sons, which each year produced similar ones. The labellum was represented by a minute spike only.

ODONTONIA FIRMINII.—Mr. J. O'Brien, V.M.H., drew attention to a bigeneric hybrid shown by M. Firmin Lambeau under this name. Its parentage was alleged to be Odontoglossum crispum × Miltonia vexillaria, but some doubt was felt as to whether one parent may not have been Miltonia Phalænopsis, on account of the colouring and form of the flower. The Committee expressed a desire to see further seedlings of the cross and for further information regarding it.

SCELOCHILUS VARIEGATUS.—Sir Jeremiah Colman, Bart., showed this uncommon species, and on the motion of Mr. J. T. Bennett-Poë, seconded by Mr. Holmes, a Botanical Certificate was unanimously awarded.

February 6th, 1912 :—

ABNORMAL CATTLEYA.—Mr. W. A. Manda, of St. Albans, sent a Cattleya bearing several flowers, every one of which was abnormal, some much more markedly than others.

CATASETUM RANDII.—Mr. Rolfe drew attention to a Catasetum shown by Messrs. Charlesworth, which he recognised as Catasetum Randii, Rolfe (*Bot. Mag.*, t. 7470, where both male and female flowers are shown). This species differs from C. barbatum and its few allies in having the crest of the lip shortly truncate and broken up into many short filaments, not forming a single horn-like tooth. It is a native of the Amazons.

February 20th: CŒLOGYNE VENUSTA.—Sir Frederick Moore, Glasnevin, sent an inflorescence of this interesting species. It is a native of Yunnan. On the motion of Mr. O'Brien, seconded by Mr. Shea, it was unanimously resolved to recommend the award of a Botanical Certificate.

March 5th: DISA SAGITTALIS.—Messrs. Veitch showed this species from S. Africa under the name of D. caulescens, to which it is allied. It received a Botanical Certificate in 1890. Messrs. Veitch also showed a malformed Cypripedium Fairrieanum, in which the scape was almost entirely suppressed.

March 19th: Mrs. Taylor, of Bowerdene, Henley-on-Thames, sent two abnormal flowers from a newly-imported plant of Dendrobium Wardianum giganteum. In one of them two stamens of the outer whorl had developed and became petaloid, and bore pollen sacs on their inner edges near the base. In the other the column bore at its apex three stamens, the usual one

fully, the other two partially developed, and three lips one inside the other, but the two inner and progressively smaller ones arising slightly to the right and left respectively of the normal one. Mr. J. Gurney Fowler sent an Odontoglossum with four symmetrically disposed outer perianth pieces, six inner perianth pieces, including two lips, and two normal columns, side by side. The ovary also was double, but fused into one.

April 2nd: SCHOMBURGKIA LUEDDEMANNII, Prill.—Sir Frederick Moore sent a flowering spike of this uncommon species, figured in the *Bot. Mag.*, t. 8427. Some discussion arose regarding its distinctness from S. undulata, but the Director of the Royal Botanic Gardens, Kew, to whom it was referred, says it is distinguished from that species by a bright yellow crest to the lip and other differences. It appears to have been lost sight of since 1862, and even now its habitat is unknown. S. undulata has been figured several times (see *Lindl. Bot. Reg.*, xxxi. t. 53; *Will. Orch. Alb.*, v. t. 335; *Warn. Sel. Orch.*, ii. t. 21; *Cogn. Dict. Ic. Orch.*, Schomb. *t.* 2), and always without the yellow disc.

April 16th: TASMANIAN ORCHIDS.—Mr. Odell showed, on behalf of Mr. Andrew Kingsmill, an interesting series of coloured photographs of Tasmanian Orchids, representing the following terrestrial genera:—Pterostylis, Chiloglottis, Caladenia, Diuris, Calochilus, Dipodium, Glossodia and Thelymitra.

## ORCHID PORTRAITS.

BRASSOCATTLEYA HEATONENSIS HOLFORD'S VAR.—*Gard. Mag.*, 1912, p. 613, with fig.

CATTLEYA MOSSIÆ VAR. A. DIMMOCK.—*Gard. Chron.*, 1912, ii. pp. 97, 98, fig. 38.

CATTLEYA WARSCEWICZII LOW'S VAR..—*Gard. Chron.*, 1912, ii. p. 86, fig. 33.

CYPRIPEDIUM BELLATULUM.—*Gard. Mag.*, 1912, p. 593, with fig.

ODONTIODA MADELINE.—*Gard. Chron.*, 1912, ii. pp. 101, 102, fig. 42.

ODONTOGLOSSUM CRISPUM BUMBLE-BEE.—*Gard. Chron.*, 1912, ii. p. 128, fig. 57.

STANHOPEA OCULATA.—*Gard. Chron.*, 1912, ii. p. 121, fig. 54.

## ANSWERS TO CORRESPONDENTS.

[*Orchids are named and questions answered here as far as possible. Correspondents are requested to give the native country or parentage of plants sent. An* ADDRESSED *postcard must be sent if a reply by post is desired (abroad, reply postcards should be used). Subjects of special interest will be dealt with in the body of the work.*]

H.G.A.—1. Ionopsis paniculata. 2. Cattleya intermedia.

C.K.—Dendrobium clavatum.

W.C.S.—Next month.

Photographs received with thanks.—E.R., C.K.

CATALOGUE RECEIVED.—One and All Bulbs. From the Agricultural and Horticultural Association, Ltd., 92, Long Acre, London, W.C.

VOL. XX., No. 238. THE OCTOBER, 1912.

# THE ORCHID REVIEW

Edited by R. ALLEN ROLFE, A.L.S.

## Contents.


| | PAGE |
|---|---|
| Amateur's Collection ... ... ... | 296 |
| Answers to Correspondents ... ... | 320 |
| Bulbophyllum Gentilii ... ... ... | 314 |
| Calendar of Operations for October ... | 301 |
| Catasetum fimbriatum ... ... ... | 295 |
| Catasetum splendens ... ... ... | 292 |
| Dendrobium rosellum ... ... ... | 295 |
| Dendrobium Imthurnii ... ... ... | 314 |
| Epiphytes and Ants ... ... ... ... | 299 |
| False Hybrids ... ... ... ... | 294 |
| Hybridist ... ... ... ... ... | 317 |
| Listrostachys caudata ... ... ... | 297 |
| Listrostachys forcipata ... ... ... | 305 |
| Novelties ... ... ... ... ... | 293 |
| Obituary—J. S. Bergheim ... ... ... | 292 |
| Odontoglossum seedlings ... ... ... | 317 |
| Orchid Notes and News ... ... ... | 318 |
| Orchid Portraits ... ... ... ... | 320 |
| Orchids at Kew ... ... ... ... | 315 |
| Orchids in season ... ... ... ... | 318 |
| Our Note Book ... ... ... ... | 289 |
| Poæophyllum, the genus ... ... ... | 300 |
| Societies— | 306 |
| Glasgow & West of Scotland Horticultural | 313 |
| Manchester and North of England Orchid | 312 |
| Royal Horticultural ... ... ... | 306 |


### ILLUSTRATIONS.


| | |
|---|---|
| Cycnoches maculatum ... ... ... | 315 |
| Listrostachys caudata ... ... ... | 297 |
| Listrostachys forcipata ... ... ... | 305 |


**PRICE SIXPENCE MONTHLY.** POST FREE 7/- PER ANNUM—SEE OVERLEAF.


# SANDER & SONS.

We receive fortnightly fresh consignments of the best

**OSMUNDA FIBRE**

from our own freehold lands, situated in the best Osmunda producing territory of the United States of America. Price per bushel, **2/6**; per bag, **8/6.**

BY APPOINTMENT TO HIS MAJESTY THE KING.

# *William Bull & Sons*

**WORLD-RENOWNED ORCHIDS.**

HYBRIDS A GREAT SPECIALITY.

Catalogue free on application.

**KING'S ROAD, CHELSEA, LONDON.**

# NOTICES

The ORCHID REVIEW is published regularly at the beginning of each month price 6d. net. Annual Subscription, post free, 7 -, payable in advance.

Volumes I. to XIX. can be supplied unbound at 6 -, or bound in cloth, 7/6, postage extra.—Cost of postage: book post, 9d. per volume; parcel post within the United Kingdom only, 5d. per single volume (series by weight).

Also cases for binding either volume at 1/6 each, post free throughout the postal union.

The ORCHID STUD-BOOK. By R. A. Rolfe and C. C. Hurst. By Parcel Post, 7/11. Abroad, by Book Post, 8/3.

All Subscriptions, Advertisements, Communications and Books for review, should be addressed:—The **Editor of the Orchid Review**, Lawn Crescent, Kew.

Cheques and Postal Orders (sent as above) should be made payable to FRANK LESLIE & Co., and, to ensure safety in transit, should be crossed "& Co."

*Agents for copies supplied through the Trade—*

**MARSHALL BROTHERS, Ltd.**, KESWICK HOUSE, PATERNOSTER ROW, LONDON, E.C.

## SCALE OF CHARGES FOR ADVERTISEMENTS.

| | £ | s. | d. |
|---|---|---|---|
| Five lines and under in column ... | 0 | 2 | 6 |
| Per line after ... ... ... ... | 0 | 0 | 6 |
| One-eighth column... ... ... ... | 0 | 4 | 0 |
| Quarter column or eighth page ... | 0 | 7 | 0 |
| Half column or quarter page ... | 0 | 12 | 0 |
| One column or half page ... ... | 1 | 2 | 6 |
| Whole page ... ... ... ... ... | 2 | 0 | 0 |

The Editor invites communications on interesting subjects (which should be written on one side of the paper only), also portraits, &c., of rarities.

Advertisements and late news should be received not later than the 24th of the month.


# CHARLESWORTH & Co.,

ORCHID RAISERS, GROWERS,
IMPORTERS AND EXPORTERS,

# HAYWARDS HEATH,

SUSSEX,

Invite their Patrons and Friends to pay them a visit of inspection at their New Establishment,
——————where may be seen the——————

## Finest Trade Collection of Orchids In Europe.

A Conveyance will be at the Railway Station to meet Visitors, upon notification being kindly given.

CONTINENTAL BRANCH—RUE GERARD, BRUSSELS.

Telephone No. 50 Haywards Heath.

Telegrams:—Charlesworths, Haywards Heath.

Please Address—CHARLESWORTH & Co., Haywards Heath, Sussex.

# THE ORCHID REVIEW.

VOL. XX.] *OCTOBER*, 1912. [No. 238.

## OUR NOTE BOOK.

THE flowering of a hybrid between Oncidium macranthum and Cochlioda Nœtzliana, under the name of Oncidioda Cooksoniæ, as recorded at page 272, is an interesting event, and it will be very curious to see what the plant develops into when it becomes strong. We may assume that the inflorescence will be more or less twining in character, but one wonders whether it will extend to several yards in length, and have to be trained round and round the plant on stakes, as is often seen in the Oncidium parent. We have no Oncidium of this class with crimson flowers, and as those of the hybrid are necessarily considerably reduced in size it will be interesting to see if it can again be crossed with the Oncidium.

———

Hybridists seem to provide us with a constant series of surprises, and any meeting of the R.H.S. may produce some interesting novelty. At the last meeting there was a very striking hybrid between Odontoglossum Rossii rubescens and O. Queen Alexandra, under the name of O. Woodroffeæ, which gained a First-class Certificate. It had much of the character of O. Smithii, another fine O. Rossii hybrid, and will form a charming companion for it. There was also a beautiful hybrid between O. crispum and O. apterum, called O. Neptune, in which the characters of the two parents had combined well, gaining for the plant an Award of Merit; while a similar award went to Odontioda Margarita, derived from the very distinct Mexican Odontoglossum madrense and Cochlioda Nœtzliana, and this was remarkable in having a light orange blotch at the base of each segment. The two latter were from M. Henri Graire, of St. Fuscien, who has already given us several very interesting novelties.

———

At the previous meeting there was a surprise of another kind, in the shape of a fine new Dendrobium from the Philippines, which gained a First-class Certificate. It was briefly described under the name of D. Schuetzei, Rolfe, last year (*O.R.*, xix. p. 224), when imported by Messrs. Sander, but now it has flowered with them, and promises to be a striking acquisition. Its dwarf habit and large white flowers recall D. formosum rather than D.

Dearei, to which it was originally compared, though the shape of the spur and a green blotch near the base indicates a near affinity with the latter. It seems to have a strong constitution, but has not yet had time to get fully established. Not long ago the beautiful Dendrobium Sanderæ was imported by the same firm, and it is evident that the supply of novelties from abroad is not exhausted yet.

---

Some magnificent examples of cultural skill have also appeared at recent meetings, which suggests that increased attention is being paid to this important detail. The specimen of Vanda cœrulea four feet high, and bearing seventy-four leaves and two spikes, the best with nineteen flowers, for which Messrs. Sander & Sons received a Cultural Commendation on September 10th, was a fine sight, and the sturdy plant of the same from Lady Werner's collection, which gained a similar award a fortnight later, was also magnificent, bearing a spike of fifteen flowers, some of them five inches across, and of the most brilliant colour imaginable. And yet Vanda cœrulea is often regarded as a difficult plant to grow. Then there was the magnificent specimen of Cypripedium Lord Derby from Baron Bruno Schröder's collection, bearing fourteen spikes and forty flowers, which also gained a Cultural Commendation at the last meeting. Such specimens are not grown in a day, and it is only by good cultivation that the best qualities of an Orchid are brought out. A good many other Cultural Commendations have been awarded this season, and it is interesting to see such recognition of what, after all, is the most important department of Orchidology.

---

An open letter from "Progressive" to the Council of the Royal Horticultural Society, which appears in the *Journal of Horticulture* (p. 306) affords matter for reflection. "As a regular frequenter," he remarks, "of the fortnightly shows of the Royal Horticultural Society, it has often struck me of late that some move should be made by those in authority to encourage further the hybridising and cross-breeding of plants. The shows have attained to a certain pitch of perfection, their like cannot probably be found in the world, but there is still something lacking. The very perfection of the groups in the manner of staging and quality may, after a time, become monotonous unless something further is done in the way of encouraging the production of novelties. I am, of course, aware that individual and specific plants stand the chance of an Award of Merit or First-class Certificate in the Committee-room, but my complaint is more in regard to the groups that are displayed in the Hall. On several occasions I have seen the much sought-for Gold Medal awarded to otherwise very fine exhibits which have not contained a single real novelty. . . . It

will surely be conceded that an exhibitor's own handiwork should receive a little more recognition than appears to obtain at present. I would venture the suggestion that a special medal be struck and awarded to groups in which all, or a considerable portion, of the things shown are of the authenticated raising of the exhibitor, and I trust that this proposal may receive the consideration of the Council of the R.H.S. As things are at present a hybridist has his opportunity of gaining an Award of Merit or (in very rare instances) a First-class Certificate for an individual subject placed before the Committee, and, if he perseveres, and is fairly successful, he may, perhaps, at the age of seventy-five or thereabouts, obtain the coveted V.M.H., and I think the time has now come when some further form of encouragement should be offered to induce people to take up and labour at this beneficient science. To encourage and foster to the utmost in its power work of this kind is surely one of the principal objects for which the Royal Horticultural Society exists. A step in the right direction I have indicated will cost the Society nothing, and will be an immense stimulus to a number of people who are at present just amusing their spare moments. The chance of some tangible recognition of their labour will cause them to take up the subject in real earnest, and the result will tend to strengthen and popularise the very good work that the Royal Horticultural Society has done and is doing."

---

There may be something in the suggestion, but we cannot think that "Progressive" has paid much attention to Orchids during his frequent visits to these meetings. Judging by the constant stream of novelties exhibited, we should not describe such achievements as the work of a number of people who are just amusing their spare moments. Nor do they appear to stand much in need of some stimulus to further effort.

---

A communication respecting the Odontoglossum disease whose history was given at pp. 267-269 suggests a little misconception as to its development. Cercospora Odontoglossi is a perfectly definite organism, which develops from a spore, and passes through a regular cycle of existence, ultimately producing a crop of spores for a new generation, and unless these spores are present it cannot possibly develop. It is not a question of good or bad culture: the under surface of the leaf of a well-cultivated Odontoglossum crispum furnishes just as good a seed bed for its development as a badly-cultivated one, and, of course, every injury to an Odontoglossum leaf must not be attributed to the presence of the Cercospora. It is something to have definitely identified the organism, and it would now be interesting to trace the phases of its life history. Orchidists, however, will probably be more concerned how to get rid of it than to cultivate it.

## OBITUARY.

J. S. BERGHEIM.—We regret to record the death, on September 10th last, as the result of an accident, of Mr. J. S. Bergheim, Belsize Court, Hampstead, the possessor of a very interesting collection of Orchids and other plants. Three days previously Mr. and Mrs. Bergheim were travelling in their motor car on the Ripley Road, when, in attempting to avoid a cart, the car ran on to a bank and was overturned. Mr. Bergheim sustained a fractured skull and other injuries, and Mrs. Bergheim a severe shock. They were taken to the Guildford Cottage Hospital, were Mr. Bergheim, who was in his seventieth year, died on September 10th without regaining consciousness. Mrs. Bergheim is recovering satisfactorily and the chauffeur escaped almost unhurt. Mr. Bergheim, who was largely interested in oil-fields, was a keen naturalist and a lover of plants, and his Orchid collection contained both the usual showy and botanical kinds, some of which he had himself collected during a series of trips to various foreign parts, in which he was accompanied by Mrs. Bergheim. A very interesting note on a batch of seedling Catasetums may be found at page 318 of our last volume, these being from a plant of C. macrocarpum which was brought from Trinidad a few months previously with a small collection of native Orchids. Mr. Bergheim was present at the R.H.S. meeting on August 27th, when he exhibited a plant of Listrostachys O'Brieniana (p. 284), which received an Award of Merit, and the remarkable Bulbophyllum Gentilii, which is noted at page 314.

## CATASETUM SPLENDENS.

A SPIKE of a handsome Catasetum has been sent by Mr. Wilhelm Hennis, Orchid Importer, of Hildesheim, Hanover, with the information that it was imported as C. Bungerothii from the lower part of Colombia, near Venezuela, whence the rivers run towards the Orinoco. It is a form of the remarkably polymorphic C. splendens, Cogn., believed to be a natural hybrid between C. Bungerothii and C. macrocarpum, whose history has already been given in detail (*O.R.*, ii. pp. 355-357; iii. pp. 43, 85, 86). The form sent by Mr. Hennis approaches C. splendens var. Aliciæ (*Lindenia*, x. t. 457) in colour, but the lip is much less open; in fact the shape is nearer that of C. macrocarpum var. Lindenii (*l.c.*, t. 442), which is now believed to be a form of C. splendens. The latter created rather a sensation when it appeared some eighteen years ago, and as other plants imported by Mr. Hennis are showing for flower it will be interesting to see if history repeats itself. Mr. Hennis also states that he has imported some Cycnoches from the same locality, which have not flowered yet. We shal hope to hear more about them.

R. A. R.

## NOVELTIES.

A NUMBER of new Orchids which flowered in various collections have been described since our last notes appeared (*O.R.*, xviii. pp. 69, 70), and may now be summarised :—

BULBOPHYLLUM NIGRESCENS, Rolfe.—A Siamese species, collected near Chengmai, by Dr. Alexander Kerr, which flowered in the Trinity College Botanic Gardens, Dublin, in May, 1909. It is allied to B. secundum, Hook, f., but has flowers twice as large, the sepals lined and dotted with blackish purple on a yellowish green ground, and the petals and lip blackish purple, the latter with a green area at the base.—*Kew Bulletin*, 1910, p. 158.

MEGACLINIUM LUTESCENS, Rolfe.—Sent from the Gold Coast by Mr. Band, and flowered at Kew in November, 1909. It is allied to M. minutum, Rolfe, and has honey yellow flowers.—*Kew Bull.* 1910, p. 158.

PHAIUS COOPERI, Rolfe.—A striking species, allied to P. callosus, Blume. It flowered in the collection of Mr. A. J. Hollington, Forty Hill, Enfield, and was purchased by Messrs. Sander & Sons, who exhibited it at a meeting of the R.H.S. in January, 1910, when it received a Botanical Certificate. Its habitat is supposed to be Malayan. The sepals and petals are bright red-brown in front, and pale yellow behind, and the lip is white at first, soon changing to light yellow, with a few red-brown blotches in the throat. It is dedicated to Mr. E. Cooper, one of Messrs. Sander's foremen. —*Kew. Bull.*, 1910, p. 159.

LISSOCHILUS ANDERSONII, Rolfe.—A West African species, sent from Aburi, on the Gold Coast, by Mr. J. Anderson, and flowered at Kew in April, 1910. The sepals and petals are very pale greenish or sulphur yellow, and the lip white, with from five to seven light purple verrucose keels on the disc.—*Kew Bull.*, 1910, p. 159.

LYCASTE PERUVIANA, Rolfe.—A Peruvian species, introduced by Messrs. Sander & Sons, through their collector, M. Forget, and flowered at St. Albans, in May, 1910. It is allied to L. Barringtoniæ, Lindl., and has light tawny brown sepals and petals, becoming paler at the base, and a nearly white fringed lip.—*Kew Bull.*, 1910, p. 160.

ANGULOA CLIFTONII, Rolfe.—A striking Colombian species, introduced by Messrs. Charlesworth & Co., Haywards Heath, and flowered in the collection of Mr. J. Talbot Clifton, Lytham Hall, Lancs. The sepals and petals are lemon yellow, with a dark lurid purple base, and some transverse lines and reticulations above, and the lip is brownish yellow with a few brown spots. It differs from all other species of the genus in having a saccate base to the lip.—*Kew Bull.*, 1910, p. 160.

STANHOPEA ELEGANTULA, Rolfe.—An ally of S. saccata, Batem., which

was received with a small collection of miscellaneous Orchids from Mrs. Birdwood, Dalkeith House, Twickenham, in 1907, and flowered at Kew in April, 1910. The flowers are primrose yellow, with the base of the petals and hypochil of the lip orange, sparsely dotted with brown. The habitat is unknown.—*Kew Bull.*, 1910, p. 161.

LISTROSTACHYS IMBRICATA, Rolfe.—Sent from the Gold Coast by Mr. J. Anderson, in 1907, and flowered at Kew in February, 1910. It is a dwarf plant, with equitant leaves, a short inflorescence clothed with inbricating bracts, and small white flowers.—*Kew Bull.*, 1910, p. 161.

BULBOPHYLLUM TRIFARIUM, Rolfe.—A Madagascar species from the collection of Sir Trevor Lawrence, Bart., Burford, Dorking, where it has flowered periodically since May, 1897. The flowers are borne in three rows on the inflorescence, and are dull lurid purple, with numerous minute darker dots on the sepals.—*Kew Bull.*, 1910, p. 280.

CYNORCHIS MORLANDII, Rolfe.—A terrestrial Orchid, introduced from the Island of Pemba, in the Mozambique district, by Mr. C. E. Morland, and flowered at Kew in May, 1910. It is allied to C. fastigiata, Lindl., and has lilac-coloured flowers, becoming greenish-white on the disc of the lip, and at the base of the other segments.—*Kew Bull.*, 1910, p, 283.

LYCASTE LATA, Rolfe.—A Peruvian species, allied to L. Barringtoniæ, Lindl., and having the sepals and apex of the petals green, and the rest of the flower white. It was introduced by M. Forget, and flowered with Messrs. Sander & Sons, St. Albans, in November, 1910.—*Kew Bull.*, 1910, p. 370.

ONCIDIUM BALLII, Rolfe.—A species of the Cimiciferum section, which flowered in the collection of Mr. G. Shorland Ball, Burton, Westmorland, in October, 1908, and afterwards at Kew, from a plant presented by Mr. Ball. The inflorescence is compact, and the flowers are small, bright yellow, with brown markings on the lower part of the sepals and petals, and the base of the lip dark shining brown.—*Kew Bull.*, 1910, p. 371.

SIGMATOSTALIX PERUVIANA, Rolfe.—Introduced by Messrs. Sander & Sons through their collector M. Forget, and flowered in their establishment at St. Albans in November, 1910. It is allied to S. aurosanguinea, Rchb. f., and has straw-coloured sepals and petals, with a dark band at the base of the dorsal sepal and petals, and the lip light yellow with a shining orange-yellow crest.—*Kew Bull.*, 1910, p. 371.

---

FALSE HYBRIDS.—At page 255 a note appeared about a seedling from the collection of E. F. Clark, Esq., Evershot, Dorset, which resembled Lælia cinnabarina both in habit and flowers. Mr. Clark now suggests that it may be a false hybrid. About eleven years ago we published a note on a seedling said to have been obtained as a cross between Lælia cinnabarina

and Cattleya citrina, though there was not a trace of the latter about it (*O.R.*, ix. p. 225). Thinking that the C. citrina influence might be more apparent in the second generation, Mr. Clark crossed the plant with some C. citrina pollen, and obtained several seedlings resembling the Lælia parent in the foliage, but eventually all but one died. It was thought that this also was lost, but Mr. Clark now suggests that it is just possible that one survived and produced the flower mentioned. The cross might be repeated, for C. citrina has produced true hybrids in other cases.

## CATASETUM FIMBRIATUM,

The female flowers of Catasetum fimbriatum, Lindl., have again appeared, this time in the establishment of Messrs. Charlesworth & Co., Haywards Heath, on a plant which had been obtained from a lady friend, Miss Bethel, who found it at Posedas, on the River Parana, in Paraguay. A few weeks ago a female flower from this plant was sent to Kew, which was not identified, the females of several species being very much alike. A little later, however, an inflorescence from the same plant was sent, bearing a flower of each sex, with a third bloom in an intermediate condition, when the species was at once identified. The female of this species was first recorded in September, 1891, when a plant from the collection of W. J. Wright, Esq., of Denmark Hill, which had been obtained from Monte Video, was exhibited at a meeting of the R.H.S., bearing two male and two female flowers on the same inflorescence (*Gard. Chron.*, 1891, ii. p. 310). It obtained a Botanical Certificate, and the inflorescence is now preserved at Kew. The history of the species was given four years ago (*O.R.*, xvi. p. 283), and a very interesting note about its habitat from the pen of Mr. H. Gurney Aggs (*l.c.*, p. 335), describing the circumstances under which he met with it at the great Iguaza Falls, South Brazil.

Dendrobium rosellum.—A Bornean Dendrobium belonging to the section Aporum has just flowered in the collection of the Hon. N. C. Rothschild, Ashton Wold, Oundle, possibly for the first time in Europe. The species was described by Mr. H. N. Ridley, Director of the Singapore Botanic Garden, in 1896 (*Journ. Linn. Soc.*, xxxi. p. 269), from materials collected at Selabat, Borneo, by Haviland, who found the plant on the trunk of a fallen tree. It is nearly allied to D. Serra, Lindl., but has larger, rose-coloured, not white, flowers, and a differently-shaped lip. The species has since been collected in Gunong Panti, Johore, in the Malay Peninsula. The plant above mentioned was sent to Kew for determination, with two other species of the Aporum section, which proved to be D. Serra, Lindl., and D. eulophotum, Lindl. All had been imported from Borneo with various other species.

R. A. R.

## THE AMATEUR'S COLLECTION.

By C. ALWYN HARRISON, F.R.H.S.

### COOL HOUSE.

WITH the beginning of this month, winter treatment must come into operation, and fire heat must be employed regularly at night, and even during the day should cold and damp weather be experienced. One of the main factors in the successful culture of Orchids is to maintain an even and regular temperature throughout, and an average of 55° to 60° Fahr. by day and 50° to 55° by night must be adhered to as closely as possible. Now that most Orchids have finished their growth, and are preparing to rest, an abundance of fresh air must be admitted. No shade will now be required, and all the liquid shading which was applied to the roof glass early in the summer, must be washed off. Damping down will be needed twice a day, at 9.30 a.m. and 4 p.m. Water will be needed in restricted quantity now that the cooler weather has set in, and the following may be taken as a rough guide. To all plants in bud and full growth give a good dose every other day, and to those at rest every four or five days.

It is now fairly gay in the Cool house, for the hybridist has produced many magnificent autumn-flowering Odontoglossums. Give any of these all the light possible, for if kept in too gloomy surroundings the buds will turn yellow and drop off.

### CATTLEYA HOUSE.

Watering and damping will be needed as advised for the Cool house. An average temperature of 60° to 70° Fahr. by day and 58° to 63° by night indicates the degree of warmth now necessary for the inmates of this house. Do not repot any Cattleyas unless they need it, as I am firmly convinced that May and June are the best months for potting all members of this class, exception being made of those which bloom during these months. Sponge the leaves of all these Orchids with tepid rain water every fortnight, and keep a thorough watch for scale and thrip. For scale, the affected parts should be sponged with methylated spirit, and for thrip fumigation must be resorted to.

Several autumn-flowering Cattleyas should now be out or in sheath, namely, C. labiata, C. Dowiana aurea, C. Harrisoniana, and a number of hybrids partly derived from these species. It should be remarked that whenever the flowers are seen to be pushing up the base of the sheath, water should be cautiously applied until the blooms are half-way up, for, if too much water be given during the early stages, the blossoms are liable to damp off. Vanda cœrulea and Kimballiana, with some of the Brazilian Miltonias and Oncidiums, are also gay at this season, and some of the autumn-flowering Cypripediums are beginning to open.

## LISTROSTACHYS CAUDATA.

The annexed figure represents a plant of the remarkable Listrostachys caudata which has just flowered at Kew. The species is a native of West Tropical Africa, and was originally described by Lindley in 1836, under the name of Angræcum caudatum (*Bot. Reg.*, t. 1844), the author describing it

Fig. 36. Listrostachys caudata.

as a most remarkable new species imported from Sierra Leone by Messrs. Loddiges, of Hackney, in whose establishment it had flowered in the autumn previous. It had been grown on a block of wood in their stove for epiphytes. Lindley pointed out the unusually elongated spur, measuring

nine inches long, as a curious feature, recalling Habenaria longicauda and Agræcum sesquipedale, and remarked: "For what wise purpose these extraordinary appendages may have been designed by Nature we may well be unable to imagine." Somewhat later it was figured in the *Botanical Magazine* (t. 4370), from a plant in the Clowes collection, which had been bequeathed to Kew. The species was afterwards collected on the Brass River, a tributary of the Niger, by Barter, a dried specimen collected by him bearing eight flowers. It is now known as Listrostachys caudata, having been transferred to Listrostachys by Reichenbach, in 1864 (*Walp. Ann.*, vi. p. 907), on account of the double stipes of the pollinia. In 1886 a plant was exhibited at a meeting of the R.H.S. bearing a ten-flowered inflorescence, and such a plant is shown in a painting in *Reichenbachia* (ser. 1. ii. p. 41, t. 67). It is a very striking plant, its long twisted spurs giving it a remarkable appearance. The sepals, petals, and spur are brownish green in colour, and the limb of the lip white. It flowers regularly during late summer and autumn. The species is rare in gardens, but not difficult to cultivate under proper conditions. It should be grown in the Warm house, in a constantly moist atmosphere of 75° to 80° in summer, and 60° to 65° in winter, during which latter period less water is required. The Kew plant is grown on a block, and has four growths, two of which are now flowering. The photograph, taken by Mr. F. W. Rolfe, represents the plant about one-third natural size. The insect which fertilises the flowers is, we believe, unknown, but it is probably some large moth or butterfly, in which connection the following paragraph from Darwin will be read with interest :—

"The Angræcum sesquipedale, of which the large six-rayed flowers, like stars formed of snow-white wax, have excited the admiration of travellers in Madagascar, must not be passed over. A green, whip-like nectary of astonishing length hangs down beneath the labellum. In several flowers sent me by Mr. Bateman I found the nectaries eleven and a-half inches long, with only the lower inch and a-half filled with nectar. What can be the use, it may be asked, of a nectary of such disproportionate length? We shall, I think, see that the fertilisation of the plant depends on this length, and on nectar being contained only within the lower and attenuated extremity. It is, however, surprising that any insect should be able to reach the nectar. Our English Sphinxes have proboscides as long as their bodies; but in Madagascar there must be moths with proboscides capable of extension to a length of between ten and eleven inches! This belief of mine has been ridiculed by some entomologists, but we now know from Fritz Müller that there is a Sphinx-like moth in South Brazil which has a proboscis of nearly sufficient length, for when dried it was between ten and eleven inches long. When not protruded it is coiled up into a spiral of at least twenty windings."

## EPIPHYTES AND ANTS.

AN article entitled "Symbiosis of Ants and Plants," by Mr. H. N. Ridley, F.R.S., Director of the Singapore Botanic Gardens, recently appeared in the *Annals of Botany*, and under the heading "Relations of Ants to Epiphytes," we find some interesting remarks on the conditions under which certain epiphytic Orchids grow in the tropics.

Ants, Mr. Ridley remarks, play a considerable part in many cases in the growth of epiphytes, and especially in Orchids. All trees do not bear epiphytes. On some of those with smooth bark or with longitudinally grooved bark epiphytes are seldom if ever to be found. Whether a tree does or does not bear epiphytes depends on the flow of rain down the branches and stem. Where in smooth-barked trees like Macaranga the rain flows quickly off, vegetable debris and spores cannot rest, and no epiphytes are borne. A notch in the bark of one of these may, however, retain a little soil, and epiphytes then usually appear. Lichens are abundant on these smooth-barked trees, and usually absent from rough-barked ones. Ficus Benjamina is a smooth-barked tree, but liable to cracks or other injuries, so that it carries epiphytes readily in parts. The boughs are covered with lichens, and where they are more or less vertical, with a strong slope, nothing more grows on the upper side where the great rush of rain-water takes place. On the sides where water more slowly trickles off, mosses and Algæ starting from a crack in the bark commence growing. As they increase in growth they retain more and more of the debris, and may cover a considerable patch. In doing so they kill out the lichens.

When the patch is large enough, ferns or phanerogamous plants appear. The roots of the Orchids and creeping rhizomes of the ferns retain the vegetable debris washed down and blown by the wind, and the plants increase until the bough may be covered with epiphytes.

As soon as the Orchids commence to grow, or even before, the ants begin to use the spot as a suitable one for their nests. The Pigeon-Orchid (Dendrobium crumenatum) is one very attractive to ants. It emits slender white roots so as to form a cage at the stem base, which is quickly occupied by a species of ant, a Dolichoderus. This ant brings a quantity of soil and piles it up, and fills in the spaces between the roots beneath which it makes the nest. The earth thus brought up supplies food to the plant and also serves to keep the roots cool and moist. The old nests, as time goes on, accumulate on the tree boughs till quite a quantity of soil is supplied to the roots of the various epiphytes.

I do not find that all the great number of epiphytic plants on our trees are supplied in this way with nutriment, but undoubtedly it is one of the factors of the great development of epiphytes in the Eastern Tropics.

Occasionally termites add a supply of soil to the epiphyte garden. In Arenga saccharifera and other palms of which the leaf-bases remain on the trunk, the termites tunnel out the leaf-bases and replace the destroyed tissue with mud, which remains in after the termites have left. Through this mud such plants as Davallia solida push their rhizomes and utilize the soil brought up. Ants, too, carry this soil further up the trees to form their nests beneath the Orchids, &c.

There are, however, no special modifications to induce the ants to nest among and around the roots of the Orchids and other such plants, unless the emission of the roots from the base of the stems in Dendrobiums in such a form that it is convenient for the ants can be said to be one. But, especially from observing young plants, I am of opinion that the nesting of the ants among the roots is distinctly advantageous, seedlings not infested by ants being weaker and suffering more from drought.

## THE GENUS POÆPHYLLUM.

POÆPHYLLUM pauciflorum, Ridl., is a curious Malayan Orchid that was originally described as Agrostophyllum pauciflorum, Hook. f., and afterwards transferred to Eria, as E. minutiflora, Ridl. Schlechter has now reduced it to the Javan Lectandra parviflora, J. J. Smith, and added two new species from New Guinea. But Lectandra was not published until several months later than Poæphyllum, and an examination of authentic examples of the two species shows that the Javan plant is specifically distinct from that of the Malayan Peninsula. Poæphyllum is nearly allied to Appendicula, and has a very similar habit, but differs in having eight pollen masses. The flowers are small, and are borne in very short auxillary racemes. Four species are at present known, as shown in the following enumeration :—

P. PAUCIFLORUM, *Ridl. Mater. Fl. Malay Penins.*, p. 109. Agrostophyllum pauciflorum, *Hook. f. Fl. Brit. Ind.*, v. p. 824; *Hook. Ic. Pl.*, t. 2097. Eria minutiflora, Ridl. in *Journ. Linn. Soc.*, xxxii. p. 297.—Native of Johore, Pahang and Perak, in the Malayan Peninsula.

P. PARVIFLORA, Rolfe. Lectandra parviflora, J. J. Sm. in *Bull. Dep. Agric. Néerl. Ind.*, xiii. p. 55, with tab. L. pauciflora, Schlechter in *Fedde Repert. Sp. Nov.*, Beih. i. p. 363.—Native of Java.

P. PODOCHILOIDES, Rolfe. Eria podochiloides, Schlechter in *K. Schum. et. Lauterb. Nachtr. Fl. Deutsch. Süd-See*, p. 182. Trichotosia podochiloides, Kranzl. in *Engl. Pflanrenr.*, iv. *Orch.-Dendr.* ii. p. 136. Lectandra podochiloides, Schlechter in *Fedde Repert. Sp. Nov.*, Beih. p. 364.—Native of New Guinea.

P. TENUIPES, Rolfe. Lectandra tenuipes, Schlecter in *Fedde Repert. Sp. Nov.*, Beih. p. 365.— Native of New Guinea. R. A. ROLFE.

## CALENDAR OF OPERATIONS FOR OCTOBER.

By J. T. Barker, The West Hill Gardens, Hessle, E. Yorks.

Owing to the continuation of the wet, cold, sunless weather it will be advisable to maintain the temperatures a little above the usual winter figures given below, for some of the plants are rather late in completing their growths, and this will assist them to develop and finish more rapidly than would otherwise be the case. The weather, and the outside conditions generally, have been as bad as they can possibly be for the cultivation of Orchids which delight in heat and light, but for Cool house Orchids they have been all that can be desired, which is in striking contrast with those of last year, when everything favoured the heat-loving Orchids to the detriment of the Cool section.

We may now at any time expect frost, and very cold nights, and every care must be taken to maintain the temperatures somewhere near the proper figures, for, if allowed to fall too low, much harm will accrue, especially with so many of the growths in a soft and unconsolidated condition. As the growths complete themselves it will be wise to gradually reduce the temperatures to the minimum degree.

Temperatures.—During this and next month the atmospheric temperatures at night should be as follows:—

East Indian house, 65° to 70°.

Cattleya and Mexican house, 60° to 65°.

Intermediate house, 58° to 62°.

Odontoglossum house, 55° to 60°.

Should extremely cold weather prevail, a slight fall in the temperature, if not allowed to remain for too long a time, will do no harm, provided the atmosphere is kept in a dry condition. Fluctuations in temperature, however, must be guarded against as much as possible, and no pains should be spared in maintaining them at their proper figures.

Shading.—The shading on all the houses may now be removed, as light is of the greatest importance in the ripening progress of all plants, yet this factor is often neglected. Plants fully exposed to the light during the times when there is no danger of scorching, produce their flowers more freely, and are less susceptible to the effects of errors of treatment in other ways. It is particularly important, after a season like the present one, when the growths of so many of our plants have been made under adverse conditions as regards heat and light, that they should receive all the light possible. And there is great danger of plants whose growths are not properly ripened meeting with some checks during the winter, which may do them considerable harm.

Atmospheric moisture must now be applied with greater moderation

than has been previously advised, as should the supply be excessive great harm may accrue. Rather err in keeping the atmosphere on the dry side than in a saturated condition, especially if the outside conditions are cold and wet.

VENTILATION.—Owing to the amount of moisture in the atmosphere outside, air should be admitted in all departments whenever the conditions are favourable, but it must be given with discretion, and draughts must be avoided.

WATERING.—We have now reached the season of the year when the watering of Orchids becomes a study, and no plant should have water applied to it unless absolutely necessary, and then it should have sufficient to thoroughly moisten the compost. No hard and fast rule can be laid down, as individual plants vary considerably, and every effort should be made to understand their requirements.

DENDROBIUMS that have finished their growth should be thoroughly cleaned and placed in their winter quarters in the resting house, where they should receive all the light possible, and only sufficient water to prevent shrivelling.

DECIDUOUS CALANTHES.—Plants of C. Veitchii, C. Bryan, C. William Murray, and other hybrids of the vestita section, are now showing their flower spikes from the base of the newly-made pseudobulbs. The plants should be afforded ample space and as much light as possible, and water should be applied to them whenever they become dry. The later-flowering varieties of the C. Regnieri section are also making up their new bulbs, and still need abundance of water at the roots, with an occasional watering with liquid manure. As the flowers begin to expand the atmosphere must be kept drier than when the plants were in full growth. The temperature at night should not be allowed to fall below 65° until the flowers are expanded, when they may be placed in a house a few degrees lower, where the flowers will last considerably longer than they would in a high temperature.

THUNIAS.—Owing to the sunless season, these plants have not yet lost their leaves, although having been in their resting quarters for some considerable time. Whilst the foliage remains green the plants must still be supplied with water at the root whenever they become dry. It is also a good plan to syringe the plants occasionally, especially the undersides of the leaves, to keep them free from red spider and other insect pests, which are sometimes troublesome.

ONCIDIUMS.—In the Cool house, several species of Oncidium, such as O. crispum, O. Forbesii, O. varicosum, and others, will be developing flower spikes and preparing to bloom. It is very easy for these plants to exhaust themselves so much by overflowering that they are useless afterwards. To prevent this, the spikes should be removed from weakly

plants as soon as they are observed to be pushing up, and on the strongest plants as soon as all the flowers are open.

Vandas.—In the Cattleya house such plants as V. Kimballiana and V. Watsonii are developing their flower spikes, and should have water applied to them until the flowers are open sufficient to keep the sphagnum in a growing condition, but after the flower spikes are cut, or faded, very little water is needed to keep their terete leaves plump. V. tricolor, V. suavis, and others of this section which have lost some of their lower leaves, may be repotted at this season, when they soon recover from the ordeal and quickly re-establish themselves.

Cymbidiums.—Strong healthy plants of Cymbidium Tracyanum, C. Lowianum, C. insigne, and many hybrids that are now showing flower spikes should have plenty of water at the root, others which are not yet showing should be kept rather dry for some little time longer, otherwise growth will commence and the plants fail to bloom.

Cypripediums will now be pushing up their flower spikes, and these should be neatly tied up to small green stakes of suitable lengths, as advised last month. C. superbiens (Veitchii), as it passes out of bloom, should be repotted, should this be necessary. This plant succeeds best grown in the Cattleya house in a partially shaded position, potted in a compost as advised for other tessellated-leaved Cypripediums.

Disas.—The tuberous roots of these most attractive terrestrial Orchids are best repotted at this season, just as the new growths push up from the sides of the old flower spikes. The pots must be well drained, using a compost of equal portions of fibrous peat, osmunda fibre, and sphagnum moss, with a fair sprinkling of half-decayed leaves and coarse silver sand, or, better still, powdered sand stone, all mixed thoroughly well together. After repotting, one watering should be given to settle the compost around them, and then for some time spraying once or twice a day, or even more, according to the outside conditions, will suffice to keep them moist. The house in which they are growing must be freely ventilated, with only sufficient heat to keep frost away from them in cold weather. They delight in a cool, moist airy position at all times.

Miltonias.—Miltonia spectabilis and its varieties Moreliana and atrorubens, with M. Clowesii and M. Regnellii, are interesting members of this genus for flowering during late summer and early autumn. After the plants have bloomed, and the pseudobulbs have finished growing, the supply of moisture at the roots should be gradually reduced, and the rooting material kept on the dry side until growth becomes again active in the new year. M. Roezlii, and its variety alba, with any late-flowering plants of M. vexillaria, or its hybrids, may still be repotted, should they require it, when the new growths are in a desirable condition. The whole

of these plants should now be placed in their winter quarters, at the warm end of the Intermediate house, and water applied to them only when requisite.

ODONTOGLOSSUMS.—O. grande, O. Insleayi and O. Schlieperianum are what are generally called the autumn-flowering section. These species are amongst the easiest Odontoglossums to cultivate, therefore they are often seen in a good condition in places where one hardly expects to find them. They are best accommodated in the Intermediate house, at the coolest end. When in full growth the plants must have liberal supplies of water at the roots, but after flowering, and during their period of rest, only sufficient moisture is needed to keep the pseudobulbs plump, and the roots and foliage in a healthy condition. The repotting of the O. crispum section must be pushed on with as the plants attain the desired condition. Plants pushing up spikes should be placed in such a position that they may obtain all the light possible, and every care should be taken to prevent slugs and other pests from reaching them. Flowers of these very beautiful plants are most valuable during the winter months.

CATTLEYAS, LÆLIAS AND LÆLIOCATTLEYAS may still have attention as regards repotting, providing they are in the desired condition, namely pushing new roots. The cultivator sometimes has to decide between two evils, namely, repotting a plant at an unsuitable time or allowing it to remain in a half decomposed compost; my advice in cases of this description is to repot, but of course some little discretion is necessary. Lælia anceps and its varieties are now pushing up their flower spikes rapidly and must still have generous treatment. The spikes should be carefully and neatly staked up, and should be tied in such a position that their tips do not touch the roof glass. Lælia pumila, in fact all the Lælias which have been placed in the Cool house for the summer months, had better now be placed in a light position in the Intermediate house, and liberal supplies of water at the root will be necessary until they have finished flowering and the growths are completed, when the plants may be repotted, should they require it. They succeed best in shallow pans, suspended from the roof, and a compost as advised for Cattleyas will answer their requirements.

GENERAL REMARKS.—Every opportunity should be taken to push on with necessary work, which at this season is very pressing. The potting and cleaning of the plants takes up much time, that is if they are done thoroughly, as it must be, to be effectual. The sloven makes no headway in anything, and work that is only half done had better be left alone. The placing of our plants in their winter quarters is one of the main things which will occupy our time during the present month, and every effort should be made to eradicate the insect and other pests which trouble us at this season.

## LISTROSTACHYS FORCIPATA.

The genus Listrostachys is remarkably polymorphic, and the species here figured is so different from L. caudata, figured on page 297, that one might wonder what could be the connection between them. In both, however, the pollinia are attached by separate stipites to a single basal gland, forming

Fig. 37. Listrostachys forcipata.

a distinguishing character from Angræcum, with its single stipes. The two species, though so widely different in appearance, are united by a chain of intermediate forms, showing the greatest diversity both in habit and floral structure. Listrostachys forcipata was described by Kränzlin in 1894 (*Engl. Jahrb.*, xix. p. 254), from dried specimens collected by Preuss in the

primeval forest west of Buea, in the Cameroons, at 4200 feet elevation. It was said to be one of the smallest species in the genus, much resembling Oncidium iridifolium in habit. In February, 1902, a plant flowered at Kew which had been received in the previous year from Buea, and was identified with L. forcipata (*O.R.*, x. p. 72). This plant has frequently flowered since, and is here figured natural size, from a photograph by Mr. F. W. Rolfe. The plant bears about six fleshy equitant leaves, and two short racemes with about twelve and thirteen flowers. The latter are of a peculiar semipellucid white, right down to the base of the slender pedicels, with a green column. The spur is about half an inch long, suddenly clavate from the apex and then slightly bilobed or forcipate, in reference to which the specific name is given. A plant was exhibited at a meeting of the Scientific Committee of the R.H.S. in August, 1908, by the late Mr. James Douglas, and received a Botanical Certificate (*O.R.*, xvi. p. 276). It is a very distinct and pretty little plant, and quite easily grown in a small pan, suspended from the roof of the Warm house, and carefully watered. R. A. R.

## SOCIETIES.

### ROYAL HORTICULTURAL.

AT the fortnightly meeting held at the Royal Horticultural Hall, Vincent Square, Westminster, on September 10th, there was a good display of Orchids, including the fine new Dendrobium Schuetzei, and the awards consisted of two First-class Certificates, two Awards of Merit, one Cultural Commendation, and one Medal.

Orchid Committee present: J. Gurney Fowler, Esq. (in the Chair), and Messrs. J. O'Brien (hon. sec.), R. Brooman White, W. Bolton, W. H. White, Arthur Dye, J. E. Shill, J. Cypher, W. H. Hatcher, W. P. Bound, W. Cobb, J. Charlesworth, A. McBean, F. J. Hanbury, W. Thompson, Stuart Low, Gurney Wilson, and Sir Harry J. Veitch.

H. T. Pitt, Esq., Rosslyn, Stamford Hill, N. (gr. Mr. Thurgood), staged a fine group of Orchids with a ground-work of Adiantum, to which a Silver Flora Medal was awarded. It contained numerous good Cattleyas, noteworthy among them being forms of C. Gaskelliana, suavior, Source d'Or, Armstrongiæ, and Gertrude Pitt (Mossiæ × Pittiæ), Læliocattleya Nysa, Hector, Henry Greenwood, and rubiginosa (L. Boothiana × C. Schilleriana), Cypripedium Wottonii, Masdevallia Doris, Brassocattleyas, some fine Odontioda Charlesworthii, Odontoglossum crispum King of Britain, a handsomely blotched variety, forms of O. Hyeanum, and others.

E. H. Davidson, Esq., Borlases, Twyford (gr. Mr. Cooper), sent a small choice group, including Odontoglossum Aurora (Rossii × Lambeauianum), bearing an erect spike of nine large white flowers, tinged with lilac and spotted with dark purple on the sepals and petals, O.

crispum Louis, a fine white flower with a large maroon blotch on the lip, a fine Odontioda Charlesworthii, with another dark scarlet flower of unknown parentage, Cattleya Cybele Sanderæ, Læliocattleya Neleus (C. Iris × L.-c. Ophir), a bright yellow flower, with a light crimson lip, veined with yellow, and others.

H. F. Goodson, Esq., Fairlawn, Putney (gr. Mr. G. E. Day), sent the handsome Cattleya Rhoda Fairlawn var., C. Atalanta illuminata, a large rose-coloured form, Læliocattleya Elva var. St. Vincent, and some good Brassocattleyas. (See also Awards).

His Grace The Duke of Marlborough, Blenheim Palace, Woodstock (gr. Mr. Hunter), sent Læliocattleya eximia Blenheim var. (C. Warneri alba × purpurata alba), white with purple veining on the lip, L.-c. Phœnix Blenheim var. (L.-c. Greenwoodii × C. Hardyana), a richly-coloured form, Vanda cœrulea blenheimensis, a very fine form, richly tessellated with blue on a lighter ground, and a hybrid Cypripedium.

Francis Wellesley, Esq., Westfield, Woking (gr. Mr. W. Hopkins), sent Læliocattleya Mrs. Donald MacMaster (C. Dowiana aurea × L.-c. luminosa), a very fine hybrid, most like the Cattleya parent in shape, and the sepals and petals yellow, suffused and veined with rosy red, while the lip is rosy crimson, with yellow lines at the base and some darker lines on the disc.

Messrs. Charlesworth & Co., Haywards Heath, staged an interesting little group, including a richly-coloured Cattleya Circe, a white form of Læliocattleya eximia, Brassocattleya Maroniæ, a well-flowered Maxillaria nigrescens, Vanda Kimballiana, Dendrobium Dearei, Cypripedium leyburnense magnificum, and the pretty orange-coloured Lælia monophylla.

Mr. Sydney Flory, Tracy's Nursery, Twickenham, staged a small choice group, including a fine plant of Pescatorea Klabochorum, Zygopetalum maxillare, the rare Dendrobium Maccarthiæ, a good Cattleya Pittiana, Cypripedium Curtisii with eight flowers, C. Kubele grandis, C. beechense, C. Lord Ossulston, C. Massaianum, C. James H. Veitch, and two good Odontoglossums.

Messrs. Stuart Low & Co., Bush Hill Park, staged a pretty little group, including good specimens of Oncidium macranthum, varicosum and incurvum, some good Dendrobium Phalænopsis, Renanthera Imschootiana, Cattleya Dowiana aurea and Harrisoniana, Brassocattleya Maroniæ, Læliocattleya Henry Greenwood, Stanhopea graveolens, and the striking Cirrhopetalum appendiculatum.

Messrs. J. & A. A. McBean, Cooksbridge, showed Cattleya Adula excelsa, a very fine form, having bronzy yellow sepals and petals and a rose-purple lip, C. Thurgoodiana var. Model, a finely-shaped and richly-coloured flower, and two hybrid Odontoglossums.

Messrs. Sander & Sons, St. Albans, staged a choice group, including a fine specimen of Arachnanthe Lowii, bearing three fine pendulous spikes, Cœlogyne brunnea, and the rare C. Micholitzii, Læliocattleya venusta (L.-c. Schilleriana × Aphrodite), a pretty white flower, with a purple feather on the petals and a rich purple lip, L.-c. Fred Gott (L.-c. Martinetii × C. bicolor), a rosy-coloured flower with purple lip, L.-c. Phœnix (L.-c. Greenwoodii × C. Dowiana aurea), and a Stanhopea of the Wardii group. (See also Awards).

### FIRST-CLASS CERTIFICATES.

DENDROBIUM SCHUETZEI (Rolfe).—A very handsome Philippine species allied to D. Sanderæ, but having shorter, stouter pseudobulbs, about nine to twelve inches long, and a spike of four or five large pure white flowers, with a small emerald green disc to the lip and a few dark spots at the base. Exhibited by Messrs. Sander & Sons.

LÆLIOCATTLEYA MEMORIA H. A. Tracy (L.-c. Canhamiana × Hardyana).—A remarkably fine hybrid, showing much of the character of the Cattleya parent, and having the sepals tinged with rosy lilac, the recurved undulate petals rose, with a paler margin, and the broad undulate lip intense purple crimson, with some yellow veining on the disc and a yellow area on each side of the throat. Exhibited by H. F. Goodson, Esq., Fairlawn, Putney (gr. Mr. G. E. Day).

### AWARDS OF MERIT.

LÆLIOCATTLEYA ST.-GOTHARD GLEBE VAR. (L.-c. Gottoiana × C. Hardyana).—A very large and handsome form, most like the Cattleya parent, and having the sepals and petals tinged and marbled with rosy lilac, and the lip deep ruby red with a yellow disc. Exhibited by C. J. Phillips, Esq., The Glebe, Sevenoaks.

ODONTIODA DEVOSSIANA FOWLER'S VAR. (O. Edwardii × C. Nœtzliana).—A brilliantly-coloured form, bearing branched panicles of red-purple flowers, with undulate sepals and petals, and a bright yellow crest to the lip. Exhibited by J. Gurney Fowler, Esq., Glebelands, S. Woodford (gr. Mr. J. Davis).

### CULTURAL COMMENDATION.

VANDA CŒRULEA.—To Messrs. Sander & Sons, St. Albans, for a remarkably fine specimen, four feet in height, and bearing seventy-four leaves and two fine spikes, one with ten the other with nineteen large and well-coloured flowers.

---

At the meeting held on September 24th there was a fine display of Orchids, including several promising novelties, and the awards consisted of three Medals, one First-class Certificate, five Awards of Merit, and two Cultural Commendations.

Orchid Committee present: J. Gurney Fowler, Esq. (in the Chair), and Messrs. J. O'Brien (hon. sec.), C. J. Lucas, Gurney Wilson, J. Wilson Potter, R. A. Rolfe, R. G. Thwaites, F. Sander, F. J. Hanbury, C. H. Curtis, T. Armstrong, A. A. McBean, Walter Cobb, J. Charlesworth, W. H. Hatcher, Arthur Dye, J. E. Shill, W. H. White, Sir Harry J. Veitch, W. Bolton, R. Brooman White, J. S. Moss, and de Barri Crawshay.

Lady Wernher, Luton Hoo, Beds. (gr. Mr. A. W. Metcalfe), received a Silver Flora Medal for a very fine group, including about twenty well-grown plants of Dendrobium formosum, and eight handsome Vanda cœrulea, with good examples of Læliocattleya Dominiana, bletchleyensis, Walter Gott, Marquis de Wavrin, and Cattleya Adula, making a fine display.

E. H. Davidson, Esq., Borlases, Twyford (gr. Mr. Cooper), staged a pretty little group, including seven plants of Cattleya Dowiana aurea, with examples of C. Adula, Læliocattleya Golden Oriole Borlases var., having bright salmon-red sepals and petals, and a dark crimson lip, with some yellow veining in the throat, and Sophrocattleya Dora (Cattleya Dowiana Rosita × Sophrocattleya Cleopatra), a promising hybrid, having broad orange-brown sepals and petals, and a crimson lip, with two yellow blotches in the throat. A Vote of Thanks was accorded.

Mrs. Norman Cookson, Oakwood, Wylam (gr. Mr. H. J. Chapman), sent a beautiful hybrid Cypripedium, raised by G. F. Moore, Esq., between C. Argus Mœnsii and C. Fairrieanum, having a cream white flower, tinted and dotted with purple. It is a form of C. luxembergense.

F. J. Hanbury, Esq., Brockhurst, East Grinstead, showed Cypripedium Winifred Hollington Brockhurst var. (callosum Sanderæ × niveum), a pretty light-coloured form, but very distinctly flushed with pink, though lighter in colour than the type. He also sent what we believe to be a form of C. longwoodiense (Charlesworthii × Leeanum), having a white dorsal sepal, with a small green base bearing a few brown spots.

C. J. Phillips, Esq., The Glebe, Sevenoaks, sent Cattleya Fabia Glebe var., a very fine form, having bright rose-purple sepals and petals, and a deep purple-crimson lip, with some yellow veining in the throat.

Baron Bruno Schröder, The Dell, Englefield Green (gr. Mr. J. E. Shill), sent a good plant of Brassocattleya Maroniæ bearing three spikes and six flowers.

Francis Wellesley, Esq., Westfield, Woking (gr. Mr. W. Hopkins), sent Læliocattleya Mrs. Phayre var. magnificum (C. Dowiana × L.-c. Norba), a promising hybrid, bearing an inflorescence of three flowers, having deep yellow sepals and petals, and an open rosy red lip, with some yellow veining in the throat.

Messrs. Hassall & Co., Southgate, staged a fine group of Cattleyas and Læliocattleyas, prominent among them being C. Nestor (Harrisoniana ×

Iris), having rosy purple sepals and petals, and a three-lobed lip, with small yellowish side lobes and disc, and the front lobe shading off to purple at the margin, some good forms of C. labiata, Thurgoodiana, Minucia, and iridescens, Læliocattleya Walter Gott, and another fine hybrid from Lælia lobata and Cattleya Dowiana, having rosy sepals and petals, and a darker lip, with some whitish veining in the throat (Silver Flora Medal).

Messrs. Stuart Low & Co., Bush Hill Park, staged a very fine group, including some good examples of Oncidium varicosum Rogersii and incurvum, Anguloa virginalis Turneri, Odontoglossum Uroskinneri album, grande and Rolfeæ, Vanda Kimballiana, Lælia Dayana var. delicata, with lilac-coloured sepals and petals, and the front of the lip of a peculiar slaty purple, with some similar lines on the disc, Masdevallia calura, some good forms of Dendrobium Phalænopsis, a fine plant of Houlletia Brocklehurstiana, with a very strong spike, and some good forms of Cattleya Harrisoniana, C. Dowiana aurea, C. Hardyana enfieldiensis, a large and richly-coloured form, a pretty blush white form of Cattleya Gaskelliana, with a small rosy blotch in front of the yellow disc of the lip, also forms of C. Iris, Adula, Warscewiczii, Euphrasia and others (Silver Flora Medal).

Messrs. Charlesworth & Co., Haywards Heath, staged a choice little group, including a plant of Cycnoches maculatum with one male and one female inflorescence, the latter bearing two flowers, an example of C. Egertonianum with a male inflorescence, Trichopilia nobilis alba, a pretty white form without the usual yellow disc to the lip, Eria longispicata, Brassocattleya Maroniæ, Oncidium bicallosum, Læliocattleya Colmaniana, and good forms of Cattleya Chamberlainiana, Rhoda, Sirius, Hybla and others.

Mr. H. Dixon, Spencer Park Nursery, Wandsworth, sent Miltonia Regnellii and var. citrina.

Mr. Sydney Flory, Orchid Nursery, Twickenham, sent the pretty Cypripedium Faire-Maud, a good form of C. beechense, and a form of Odontoglossum crispum with spotted sepals.

Messrs. J. & A. A. McBean, Cooksbridge, staged a small group, including good plants of Dendrobium Sanderæ and Dearei, Odontioda Bradshawiæ and Charlesworthii, Cymbidium erythrostylum, and good examples of Odontoglossum crispum, with a few hybrids.

Messrs. Sander & Sons, St. Albans, sent Cattleya nobilis var. nobilior (Warneri × granulosa), a very beautiful form, having broad sepals and petals, veined and mottled with rose on a lighter ground, and a deeply three-lobed rose-purple lip; also a plant of Cirrhopetalum miniatum (Rolfe), a native of Annam, having slender vermilion-coloured flowers, with tawny yellow hairs on the margin of the dorsal sepal and petals.

Messrs. James Veitch & Sons, Chelsea, sent a plant of Brassocattleya

Ilene rosea (C. Dowiana aurea × B.-c. Maroniæ), out of the same batch as the one that received an Award of Merit a few weeks earlier (p. 178), but much more like the pollen parent in general character.

### First-class Certificate.

Odontoglossum Woodroffeæ (O. Rossii rubescens × Queen Alexandra).—A remarkably handsome hybrid, having very dark brown sepals and petals, with a few narrow transverse light yellow lines, and the large elliptic-oblong front lobe of the lip uniform rose-purple, with a yellow disc, and a yellow somewhat toothed crest. Exhibited by E. H. Davidson, Esq., Twyford.

### Awards of Merit.

Cattleya Lord Rothschild var. albescens (C. Gaskelliana × C. Dowiana aurea).—A beautiful form with blush-white sepals and petals, and the lip rose-pink, with a paler margin and much yellow veining on the disc. Exhibited by Messrs. J. & A. A. McBean, Cooksbridge.

Læliocattleya Hastedtana Glebe var. (L.-c. Greenwoodii × C. Dowiana aurea).—A handsome hybrid, having very rich rose-purple sepals and petals, and an intense purple-crimson, very undulate lip, with a little yellow veining in the throat. Exhibited by C. J. Phillips, Esq., The Glebe, Sevenoaks.

Odontioda Margarita (O. madrense × C. Nœtzliana).—A very charming hybrid, bearing a raceme of eleven flowers, fairly intermediate in size and shape, and the sepals and petals having a large orange-brown basal blotch and a pink margin, while the front lobe of the lip is pink, with a smaller orange blotch in front of the yellow crest. Exhibited by M. Henri Graire, St. Fuscien, France (gr. M. de Voss).

Odontoglossum Neptune (crispum × apterum).—A beautiful hybrid, bearing two very round white flowers, with many red-brown dots on the sepals and petals, and a large red-brown blotch on the lip in front of the yellow crest. The column wings are very small. Exhibited by M. Henri Graire, St. Fuscien.

Zygopetalum maxillare Sanderiana.—A very charming form, with the front lobe of the lip white, the crest purple, and the sepals and petals green, with a few brown markings. The plant bore four spikes of flowers. Exhibited by Sir Trevor Lawrence, Bart., K.C.V.O., Burford, Dorking (gr. Mr. W. H. White).

### Cultural Commendations.

Cypripedium Lord Derby.—To Mr. J. E. Shill, gardener to Baron Bruno Schröder, The Dell, Englefield Green, for a magnificently-grown specimen, bearing fourteen racemes, the majority with three flowers.

Vanda cœrulea Luton Hoo var.—To Mr. A. W. Metcalfe, gardener to Lady Wernher, Luton Hoo, Beds., for a finely grown plant, bearing an

inflorescence of fifteen very large flowers, some of them measuring five inches across, and richly tessellated with deep blue on a paler ground.

---

### MANCHESTER AND NORTH OF ENGLAND ORCHID.

At the meeting held at the Coal Exchange, Manchester, on September 5th last, the members of Committee present were: Rev. J. Crombleholme (in the Chair), Messrs. R. Ashworth, J. Bamber, J. C. Cowan, J. Evans, W. H. Hatcher, W. Holmes, A. J. Keeling, J. Lupton, D. McLeod, W. Morgan, C. Parker, H. Thorp, Z. A. Ward, A. Warburton, and H. Arthur (Secretary).

Z. A. Ward, Esq., Northenden (gr. Mr. Weatherby), was awarded a Silver-gilt Medal for an excellent group of well-grown plants of varieties of Cattleya Iris, some carrying six and seven flowers, a Cultural Certificate in two instances being awarded to the gardener. The named varieties were: Jasper, George, Mrs. Ward, and Willie (A.M.). There were also Cattleya Venus (Iris × aurea) (F.-c.C.), C. Vulcan var. Louisa (A.M.), C. Pittiana Ward's var., C. iridescens Ward's var., C. Maroniæ, and C. Dusseldorfii var. Undine, Cypripedium Daisy Barclay Ward's var. and C. Zethus, with Oncidium incurvum and O. tigrinum.

R. Ashworth, Esq., Newchurch (gr. Mr. Gilden), was also awarded a Silver-gilt Medal for a nice mixed group, including Odontoglossum Blue Peter, ardentissimum, grande, several good forms of O. crispum, Odontioda Thwaitesii, Miltonia vexillaria Leopoldii, M. Bleuana gigantea and rosea, Cattleya Hardyana and Iris, Læliocattleya Henry Greenwood, with Cypripedium Fairrieanum, vexillarium, bellatulum, concolor, Transvaal, Rossetti, Victoria, Massaianum, Model (A.M.), and Daisy Barclay.

J. McCartney, Esq., Bolton (gr. Mr. Holmes), was awarded a Large Silver Medal for a group of Cattleyas, including C. Van Dyck, Harrisoniana, Iris var. latifolia, Hardyana, Princess Patricia, with Læliocattleya Cappei, callistoglossa, and a few Odontoglossum hybrids, and forms of O. crispum.

Col. J. Rutherford, M.P., Blackburn (gr. Mr. Lupton), was awarded a Silver Medal for a small group of Cattleya Gaskelliana and Iris, Cypripedium Maudiæ and Rossetti, Odontoglossum Rossii majus, O. grande, and several spotted hybrids, also Miltonia spectabilis Moreliana.

Rev. J. Crombleholme, Clayton-le-Moors (gr. Mr. Marshall), staged a nice group of Cypripediums, including C. Charlesworthii, memoria Douglasii, bingleyense Under Fell var., Lumsdenii, venocentrum, Baron Schröder, Niobe Westonbirt var., Hitchinsiæ, and Sir Redvers Buller, a Silver Medal being awarded.

E. H. Davidson, Esq., Twyford, Berks, staged a group of very choice plants, to which a large Silver Medal was awarded. It contained Cattleya Adula var. gloriosa (A.M.), O'Brieniana alba, Roupelliana Davidson's var.,

Euphrasia Davidson's var., Pocahontas alba, Læliocattleya Constance var. Rainbow (A.M.), Odontoglossum crispum var. Louis (A.M.), percultum Borlases var. (A.M.), Ceres Davidson's var. (A.M.), Harryanum, and crispum, with Odontioda Euterpe (A.M.), and O. Charlesworthii.

Mr. J. Evans, Congleton, was awarded a Silver Medal for a nice group, including Cattleya Lord Rothschild, C. Fabia, a good Læliocattleya G. Woodhams, Brassocattleya Pluto, B.-c. Empress of Russia, Cypripedium Mary Beatrice, the richly-coloured C. Lawrenceanum hackbridgense, and C. Leoniæ Ward's var.

The Liverpool Orchid & Nursery Co. (Cowan's), Gateacre, were awarded a Silver Medal for a group, comprising Lælia crispa, Cattleya Thayeriana, Læliocattleya Massangeana, Cypripedium Rossetti, triumphans, Rappartianum, Charlesworthii, A. de Lairesse, C. Cooksoniæ, and Vanda Kimballiana.

Messrs. Stuart Low & Co., Enfield, Middlesex, staged a nice mixed group, to which a Silver Medal was awarded. It contained Brassocattleya Maronii, Brassolælia Helen, Odontoglossum Uroskinneri album, O. grande, Odontioda Charlesworthii, Anguloa Ruckeri superba, Bifrenaria tetragona, and Renanthera Imschootiana, with Oncidium incurvum and O. varicosum Rogersii.

Messrs. A. J. Keeling & Sons, Bradford, staged several Odontoglossum hybrids, Cypripedium Maudiæ, C. Fairrieanum, Rappartianum, C. A. de Lairesse, and C. gigas Corndean Hall var.

Mr. W. Shackleton, Great Horton, exhibited a fine form of Odontoglossum crispum and Cypripedium T. B. Hayward × Charlesworthii.

---

## Glasgow and West of Scotland Horticultural.

At the Centenary Show of this Society held at Bunhouse Grounds, Glasgow, on September 4th, 5th, and 6th, a few choice Orchids were exhibited.

The first prizes in the two classes for Orchids were won by W. Mackay, Esq., Ascog, Bute (gr. Mr. D. Halliday), with some good plants.

Some fine Orchids were also staged in the class for a group of miscellaneous plants arranged on the ground, in a space of 15 feet by 10 feet, for which the first prize and a Veitch Memorial Medal was won by Sir Wilfrid Lawson, Bart., Brayton Hall, Carlisle (gr. Mr. A. Knight).

Among non-competitive exhibits to which awards were made we note that a Gold Medal was given to Messrs. James Veitch & Sons, Chelsea, for a fine group of Orchids and Stove Plants, and a First-class Certificate of Merit to Messrs. Sander & Sons, St. Albans, for a small collection of choice Orchids.

A number of awards were also made by a deputation from the R.H.S., and among them a Gold Medal to Messrs. James Veitch & Sons, for Orchids.

## BULBOPHYLLUM GENTILII.

THERE is a remarkable Tropical African Bulbophyllum in cultivation, of the B. calamarium group, that has the character of producing viscid pearl-like drops of nectar—for it is quite sweet—from the back of the dorsal sepal. It is allied to B. calamarium, Lindl., and has indeed been distributed under that name. It flowered with M.A. Van Imschoot, Mont-St-Amand, Ghent, as long ago as September, 1894, and was believed to be new, though it was not described. In September, 1903, a plant flowered at Kew which had been sent from the Congo by M. Louis Gentil, in 1898, and was described under the name of B. Gentilii (Rolfe in *Gard. Chron.*, 1904, ii. p. 266). More recently a plant flowered in the collection of Sir Trevor Lawrence, Bart., at Burford, which had been sent from West Africa by Sir Trevor's son, Captain Lawrence, and at the R.H.S. meeting held on August 27th last, another plant was exhibited by J. S. Bergheim, Esq., Belsize Court, Hampstead. There are also at Kew dried specimens of the species that were collected in the Cameroons by Zenker (n. 832, 2690), and distributed from Berlin under the name of B. calamarium, Lindl. The species is allied to B. calamarium, Lindl., (*Bot. Reg.*, 1843, Misc. p. 70)—which was based upon a plant collected in Sierra Leone by Colonel Fielding —but has stouter scapes and much larger concave bracts. Flowers of B. Gentilii have been figured by De Wildeman (*Ann. Mus. Congo.*, Bot. ser. 5, iii. p. 181, t. 35, fig. 1-6). They are straw-coloured, with purple markings, and the lip is covered with spreading or reflexed dark brown hairs. The pseudobulbs are strongly tetragonous, the leaves solitary, oblong, and 6 to 7 inches long, the scapes stout, nearly two feet long, and the bracts numerous, large and concave. In 1896 a species was described under the name of B. phæopogon, Schlechter (*Engl. Jahrb.*, xxxviii. p. 157), but from the description I do not know how to separate it. This was based on specimens collected in the Cameroons, near Nyoke (Schlechter, n. 15791), and between Victoria and Kriegsschiffhasen (Winkler, n. 14 a). Two or three other species of the B. calamarium group have been described but are not known in cultivation.

R. A. ROLFE.

---

DENDROBIUM IMTHURNII, Rolfe.—A distinct species of the D. veratrifolium group, which is figured in the last issue of the *Botanical Magazine* (t. 8452). It was discovered in the Island of Efate, one of the New Hebrides, by Sir Everard im Thurn, late Governor of Fiji and High Commissioner of the Western Pacific, who sent a living plant to Kew, where it flowered recently. The stems are sometimes over four feet high, and the flowers are borne in elongated racemes, the colour being white, with lilac stripes on the side lobes of the lip.

## ORCHIDS AT KEW.

Among the numerous Orchids now or recently in flower at Kew, the genus Cycnoches is specially worthy of mention. A fine plant of C. maculatum has again produced a male and female inflorescence on either side of the same pseudobulb, and this remarkable diversity is a never failing source of

Fig. 38. Cycnoches maculatum (with male and female flowers).

interest. A second plant produced only male inflorescences. C. pentadactylon, which blooms periodically, is now bearing a female flower, which is markedly different from that of C. maculatum in having more reflexed segments with some dark brown bars at the base, and a white lip.

And quite recently two plants of C. chlorochilon have both produced female flowers, which in this case chiefly differ from the males in the short, stout ovary and column, the latter with broad triangular wings, and in the more fleshy perianth segments. The allied genus Catasetum has also been represented in force. A plant of C. Darwinianum has borne a mixed inflorescence, of three male flowers and one female, with another in a transition state. The difference between the sexes in this case is very remarkable, both in shape, colour, and in the fact that the flowers of the two sexes are reversed, the lip of the female, as usual in this genus, being uppermost. Other species which produced male inflorescences only are C. Russellianum, tabulare, Hookeri, luridum, Trulla, fimbriatum, the natural hybrid C. splendens, and several C. marcrocarpum and maculatum.

Several Stanhopeas have flowered freely, and among them the rare S. anfracta and the very distinct S. convoluta may be mentioned. Another interesting ally is Sievkingia peruviana, which has produced several spikes, a fine example of Acineta Barkeri, two plants of Dendrobium Johannis, the striking Listrostachys caudata (which is figured on page 297), and several other interesting things.

Cattleyas and Læliocattleyas have made a fine display, and near by is a plant of the rare Epidendrum Ruckeræ with ten spikes, good examples of Vanda Kimballiana, Oncidium pubes, varicosum, incurvum, and others, with a good plant of the rare Brazilian Maxillaria leucaimata, bearing several flowers.

In the Cool house there are three fine specimens of Miltonia candida, with five, seven, and thirteen racemes, and with good examples of M. spectabilis Moreliana, M. Regnellii, M. Cogniauxiæ and its variety bicolor, and M. St. Andre make a very pleasing display. A large plant of Cryptophoranthus Dayanus has been literally covered with flowers. There are also plants of the charming little Lælia monophylla, Lycaste leucantha, Odontioda Graireana, a fine O. Charlesworthii, Odontoglossum Harryanum, forms and hybrids of O. crispum, Cypripedium Rossetti with seven flowers, and several examples of C. Fairrieanum, C. Charlesworthii, and C. insigne Sanderæ, making a good display.

In the Cypripedium house are good examples of C. Baron Schröder, C. Franconia, C. Harrisianum virescens, C. Graceæ, a charming little hybrid between C. Boxallii and C. niveum, another pretty hybrid in which the character of C. Rothschildianum and C. Charlesworthii are well combined, and a number of more familiar forms. There are also plants of Vanda Sanderiana, Phalænopsis denticulata, Saccolabium acutifolium, Acampe rhodesiaca and A. papillosa, Bulbophyllum inflatum with three spikes, the rare B. saltatorium, Cirrhopetalum Mastersianum, Anœctochilus setaceus, and others.

## ODONTOGLOSSUM SEEDLINGS.

A correspondent, who is anxious to raise some Odontoglossum seedlings, complains that he cannot get the seeds to germinate, and requests a few notes on the subject. It is not clear what is the cause of his failure, but it repeats the history and experience of the early raisers, whose first efforts were so fruitless that it became almost a proverb that Odontoglossums could not be raised from seed. The seeds either failed to germinate at all or else refused to progress beyond the globule stage. The difficulty no longer exists in many collections, and the following, which has been suggested to our correspondent by letter, may be useful to other beginners.

Capsules are easily produced, and the seeds are generally good, a point which may quickly be ascertained by examination under a lens. If they appear thick in the centre they may be sown with confidence. A few seeds should be scattered on the surface of the compost of selected plants in different positions in the house, their position being marked, and these should now be shaded from direct sunshine, and the compost never allowed to become dry. A few more seeds may be added at intervals of a few weeks. If a house is available with a slightly warmer temperature one or two plants should be placed there, as a rather warmer and moister atmosphere is essential at this stage. The seeds should now gradually become green, develop into green globules, and produce a few root hairs and a minute leaf, and ultimately the first true root, when they may be carefully pricked off with a pointed stick to pots of prepared compost and treated as young seedlings generally.

## THE HYBRIDIST.

Brassocatlælia Morna.—A large and handsome hybrid, raised by Mr. Briscoe, in the establishment of Messrs. James Veitch & Sons, at Langley, from Læliocattleya bletchleyensis × Brassocattleya Maroniæ. The flower measures over seven inches across, and the sepals and petals are tinged with rosy lilac, while the lip is very broad, and rosy purple in front, with a fringed margin, and paler behind, with the disc of the lip yellow. It is said to be similar to Brassocattleya Ilene (C. Dowiana aurea × B.-c. Maroniæ) in shape, but much paler in colour.

Læliocattleya Ettrick.—A large and richly-coloured hybrid, raised in the same establishment as the preceding, from L.-c. bletchleyensis × C. Dowiana aurea. The sepals and petals are broad, and rosy purple in colour, and the very broad lip intense purple crimson, with a yellow area and some yellow veining on the sides of the throat. The influence of C. Dowiana aurea is very marked in this fine hybrid.

## ORCHIDS IN SEASON.

A FEW interesting Orchids are sent from the collection of E. F. Clark, Esq., Evershot, Dorset. A flower of Odontioda Bradshawiæ is a good light scarlet form, bought as an unflowered seedling from the Chessington collection. It has produced a long spike, and the flower sent is over $2\frac{3}{4}$ inches across, so that it should develop into a fine thing. A flower from Lælia tenebrosa × L. Diana—itself a seedling from L. Dayana × purpurata—is most like L. Diana in shape, and has rosy-purple sepals and petals, and a three-lobed, very dark purple lip. It also is very promising. The third flower was supposed to be from Cattleya Dormaniana × Lælia Dayana, but is not identical with Læliocattleya porphyrites, so that the cross remains a little doubtful. The flower is much larger than in either parent, the sepals and petals bright purple, and the lip very deeply three-lobed, with a much darker stalked front lobe. It should be taken care of, and the question of parentage must be left for the present, as an alternative parentage has been snggested.

## ORCHID NOTES AND NEWS.

Two meetings of the Royal Horticultural Society will be held at the Royal Horticultural Hall, Vincent Square, Westminster, during October, on the 8th and 22nd, when the Orchid Committee will meet at the usual hour, 12 o'clock noon.

The succeeding meeting will be the Special Show of Autumn-flowering Orchids on November 5th and 6th, with a Conference on the second day, of which particulars were given at page 190. Respecting the latter the following additional information has just reached us :—

The Conference will be held in the Lecture Room of the Royal Horticultural Society, Vincent Square, Westminster, on Wednesday, November 6th, from 11 a.m. to 4 p.m., when Mr. J. Gurney Fowler, the Treasurer of the Society, will occupy the Chair. Luncheon will be obtainable on the premises.

The following papers have been promised :—

1. Some Epiphytal Orchids, by Mr. H. G. Alexander.
2. The Physiology of Fertilisation, by Professor Keeble.
3. The application of Genetics to Orchid Breeding, by Major C. C. Hurst.
4. Albinism in Orchids, by Mr. R. G. Thwaites.

As the seating accommodation of the Lecture Room is limited, seats should be secured beforehand by application to the Secretary, R.H.S.,

Vincent Square, Westminster, S.W., who will be pleased to forward reserve seat tickets to those applying for them as far as the accommodation will allow.

W. Wilks, Secretary, R.H.S.

Meetings of the Manchester and North of England Orchid Society will be held at the Coal Exchange, Manchester, on October 3rd and 17th. The Committee meets at noon, and the exhibits are open to inspection of members and the public from 1 to 4 p.m. The following meeting will be held on November 7th.

R.H.S. Scientific Committee:—The following references to Orchids exhibited at the meetings of the Committee are taken from the Official Report (*continued from page 288*):—

April 30th, 1912: Albino form of Orchis mascula.—Mr. Gurney Wilson showed an albino form of Orchis mascula collected by him in a field in mid-Sussex.

May 14th: Hybrid Orchid.—Mr. J. O'Brien showed from Mr. E. F. Clark, of Evershot, Dorset, a flower of an Orchid raised by crossing Lælia cinnabarina and Læliocattleya × G. S. Ball. The latter is a hybrid between Lælia cinnabarina and Cattleya Schrœderæ. The flower was an improved Lælia cinnabarina, larger and more open in the lip, but four of the pollen masses were large and four not quite so large, thus differing from both Lælia and Cattleya. Mr. Clark proposed to name the hybrid Læliocattleya Cinnabal.

June 4th: Odontioda Carmen.—Mr. de Barri Crawshay sent this hybrid between Cochlioda Nœtzliana and Odontoglossum nebulosum, showing characteristics of both parents. Hybrids with the latter plant as one of the parents are scarce, and a Certificate of Appreciation was unanimously recommended to Mr. Crawshay.

July 16th:—

Eria rhynchostyloides.—A Botanical Certificate was unanimously recommended to this beautiful, though small-flowered Orchid, native of Java, exhibited by Sir Trevor Lawrence, Bart, V.M.H.

Certificate of Appreciation.—A Certificate of Appreciation was recommended to Messrs. Charlesworth & Co., Haywards Heath, on the suggestion of the Orchid Committee, for work done in raising Odontonia Edna, exhibited at the Holland House Show.

July 30th: Hybrid Orchid.—Mr. O'Brien drew attention to a hybrid Orchid, Brassocattleya Thetis, shown by Messrs. J. Veitch & Sons. It was raised between Brassavola Digbyana and Cattleya Aclandiæ, but practically all the spotting of the latter species had been eliminated by the cross.

August 27th: Epidendrum laterale.—Mr. O'Brien showed for

Mr. Neale, Penarth, a plant of Epidendrum laterale (Central America), and remarked that the inflorescence is produced on a rudimentary pseudobulb, as in E. Stamfordianum (probably the only similar case), a peculiarity that seems to show that the normal mode of flowering is from the base of the mature pseudobulb. A Botanical Certificate was awarded to this plant on the proposition of Mr. O'Brien.

September 24th: CIRRHOPETALUM MINIATUM.—Mr. Rolfe drew attention to a Cirrhopetalum exhibited by Messrs. Sander & Sons, St. Albans, as having been introduced from Annam with Dendrobium Bronckartii. It strongly recalled C. gracillimum, Rolfe, especially in its caudate, almost thread-like lateral sepals, and in the strongly ciliate dorsal sepal and petals, but differed in having vermilion-coloured flowers with the hairs of the dorsal sepal and petals yellow. His first knowledge of the plant was in September, 1910, when it was sent to Kew for determination from the Royal Botanic Garden, Glasnevin, with the information that it had been purchased from Messrs. Sander & Sons as a plant imported with Dendrobium Bronckartii. It was then named and described as Cirrhopetalum miniatum, Rolfe. Afterwards a painting was received from M. Maurice Valcke, a collector for Messrs. T. Pauwels & Co., Meirelbeke, Belgium, who stated that he met with the plant at Haut Laos, between Siam and Cochin China.

## ORCHID PORTRAITS.

DENDROBIUM IMTHURNII, Rolfe.—*Bot. Mag.*, t. 8452.

DENDROBIUM SCHUETZEI, Rolfe.—*Gard. Chron.*, 1912, ii. pp. 218, 229, fig. 102.

LÆLIOCATTLEYA MEMORIA H. A. TRACY.—*Gard. Chron.*, 1912, ii. pp. 218, 242, fig. 107. Cattleya memoria H. A. Tracy.—*Gard. Mag.*, 1912, p. 711, with fig.

ZYGOPETALUM BREWII.—*Journ. Hort.*, 1912, ii. p. 279, with fig.

## ANSWERS TO CORRESPONDENTS.

[*Orchids are named and questions answered here as far as possible. Correspondents are requested to give the native country or parentage of plants sent. An* ADDRESSED *postcard must be sent if a reply by post is desired (abroad, reply postcards should be used). Subjects of special interest will be dealt with in the body of the work.*]

J.F.S.—1. Oncidium Suttonii, Lindl.; 2. Epidendrum laterale, Rolfe; 3. an Oncidium allied to O. altissimum, but the species at present uncertain.

**Photograph received, with thanks.—T.C., C.P.R.**

**W.C.S.—The note is unavoidably postponed.**

J.W.—Phalænopsis spot, probably caused by drip from the roof.

ERRATUM.—Mr. F. H. Moore writes that the flower of Dendrobium nobile var. Rappartianum figured at page 273 was three inches across, not five, as stated. The mistake arose through the typist mistaking a figure in the latter.

VOL XX., No. 239. THE NOVEMBER, 1912.

# ORCHID REVIEW

Edited by R. ALLEN ROLFE, A.L.S.

Contents.


| | PAGE |
|---|---|
| Amateur's Collection ... ... ... | 332 |
| Answers to Correspondents ... ... | 352 |
| Calendar of Operations for November ... | 325 |
| Catasetum tabulare var. rhinophorum ... | 323 |
| Cycnoches chlorochilon : female flower ... | 329 |
| Cycnoches densiflorum ... ... ... | 331 |
| Dendrobium Schuetzei ... ... ... | 337 |
| Disas ... ... ... ... ... ... | 334 |
| Lissochilus Grantii ... ... ... ... | 322 |
| Oncidium tigrinum as a parent ... ... | 334 |
| Orchid Notes and News ... ... | 351 |
| Orchid Portraits ... ... ... ... | 352 |
| Orchids in season ... ... ... ... | 350 |
| Our Note Book ... ... ... ... | 321 |
| Societies— | 333 |
| Manchester and North of England Orchid | 345 |
| North of England ... .. ... ... | 350 |
| Royal Horticultural ... ... ... | 338 |
| Vanda coerulea ; culture of in England and America .. ... ... ... ... | 323 |
| Vanda Sanderiana... ... ... ... | 324 |

ILLUSTRATIONS.

| | |
|---|---|
| Cattleya Iris var. King Edward VII ... | 339 |
| Cycnoches chlorochilon : female flower ... | 329 |
| Cycnoches densiflorum ... ... ... | 331 |
| Dendrobium Schuetzei ... ... ... | 337 |
| Disa grandiflora ... ... ... ... | 336 |
| Disa kewensis ... ... ... ... | 336 |
| Disa langleyensis ... ... ... ... | 336 |
| Disa Premier ... ... ... ... ... | 336 |
| Disa tripetaloides ... ... ... ... | 336 |
| Disa Veitchii ... ... ... ... ... | 336 |


**PRICE SIXPENCE MONTHLY.** POST FREE 7 - PER ANNUM—SEE OVERLEAF.


# SANDER & SONS.

We receive fortnightly fresh consignments of the best

**OSMUNDA FIBRE**

from our own freehold lands, situated in the best Osmunda producing territory of the United States of America. Price per bushel, **2/6**; per bag, **8 6.**

BY APPOINTMENT TO HIS MAJESTY THE KING.

# *William Bull & Sons*

**WORLD-RENOWNED ORCHIDS.**

HYBRIDS A GREAT SPECIALITY.

Catalogue free on application.

**KING'S ROAD, CHELSEA, LONDON.**

# NOTICES

The ORCHID REVIEW is published regularly at the beginning of each month price 6d. net. Annual Subscription, post free, 7/-, payable in advance.

Volumes I. to XIX. can be supplied unbound at 6/-, or bound in cloth, 7/6, postage extra.—Cost of postage: book post, 9d. per volume; parcel post within the United Kingdom only, 5d. per single volume (series by weight).

Also cases for binding either volume at 1/6 each, post free throughout the postal union.

The ORCHID STUD-BOOK. By R. A. Rolfe and C. C. Hurst. By Parcel Post, 7/11. Abroad, by Book Post, 8/3.

All Subscriptions, Advertisements, Communications and Books for review, should be addressed:—The **Editor of the Orchid Review**, Lawn Crescent, Kew.

Cheques and Postal Orders (sent as above) should be made payable to FRANK LESLIE & Co., and, to ensure safety in transit, should be crossed "& Co."

---

*Agents for copies supplied through the Trade—*

**MARSHALL BROTHERS, Ltd.**, KESWICK HOUSE, PATERNOSTER ROW, LONDON, E.C.

---

## SCALE OF CHARGES FOR ADVERTISEMENTS.

| | £ | s. | d. |
|---|---|---|---|
| Five lines and under in column ... | 0 | 2 | 6 |
| Per line after ... ... ... ... ... | 0 | 0 | 6 |
| One-eighth column... ... ... ... | 0 | 4 | 0 |
| Quarter column or eighth page ... | 0 | 7 | 0 |
| Half column or quarter page ... | 0 | 12 | 0 |
| One column or half page ... ... | 1 | 2 | 6 |
| Whole page ... ... ... ... ... | 2 | 0 | 0 |

The Editor invites communications on interesting subjects (which should be written on one side of the paper only), also portraits, &c., of rarities.

Advertisements and late news should be received not later than the 24th of the month.

---


# CHARLESWORTH & Co.,

ORCHID RAISERS, GROWERS,
IMPORTERS AND EXPORTERS,

# HAYWARDS HEATH,

SUSSEX,

Invite their Patrons and Friends to pay them a visit of inspection at their New Establishment,
——————where may be seen the——————

## Finest Trade Collection of Orchids In Europe.

A Conveyance will be at the Railway Station to meet Visitors, upon notification being kindly given.

CONTINENTAL BRANCH—RUE GERARD, BRUSSELS.

Telephone No. 50 Haywards Heath.

Telegrams:—Charlesworths, Haywards Heath.

Please Address—CHARLESWORTH & Co., Haywards Heath, Sussex.

# THE ORCHID REVIEW.

VOL. XX.] *NOVEMBER*, 1912. [No. 239.

## OUR NOTE BOOK.

LAST month, in connection with a suggestion by "Progressive," we referred to the constant stream of novelties that appear at the R.H.S. meetings. Since then no fewer than five First-class Certificates and ten Awards of Merit have been given by the Orchid Committee, and these, with a single exception, to plants of hybrid origin. We need not enumerate them, as full details appear in the report of the meetings, but it would appear that our hybridists have been "amusing their spare moments" to considerable purpose.

---

One of the recipients of a First-class Certificate gave some trouble with respect to its nomenclature. It was a hybrid between Cattleya Fabia alba and C. Warscewiczii var. Frau Melanie Beyrodt, and was exhibited under the name of C. Harrisiana. This was considered as being too similar to existing names, and the Award was made subject to a suitable name being given by the exhibitor. The question was also referred to the Scientific Committee, who suggested that it would be more convenient if vernacular names were chosen in such cases, generally from the classics, and they recommend that in this instance the exhibitor should be asked to choose such a name (see page 352).

---

It is interesting to note that both parents of the hybrid under discussion have white sepals and petals, and that the character is repeated in the offspring, a fact of importance in connection with the raising of albino hybrids, which is one of the subjects to be discussed at the coming Conference. The lip is coloured, as in the case of the parents, so that everything has worked out according to expectation, which is not always the case when albinos are crossed together.

---

Another possible nomenclature question is involved in this particular case. If the ordinary coloured forms of C. Fabia and C. Warscewiczii were crossed together, coloured offspring would naturally result, but they would be forms of the same hybrid, so that the specific name chosen should

be capable of a wider application should occasion require. And there may yet be coloured reversions among this particular batch of seedlings. It will then be an interesting point for discussion as to which is the type and which the variety, as in the case of the coloured form of Cypripedium Maudiæ which was submitted to us some time ago. The question of a varietal name, however, may be left until a coloured variety appears. The specific name is now the important consideration, and it should be a single name, in accordance with the rules governing specific names, so that varietal names can be added afterwards, as required.

---

On two or three occasions we have been urged to prepare a General Index to the *Orchid Review*, and the question is again raised in connection with the completion of our twentieth volume by the issue of the next or December number. It is suggested that such an Index would be a boon to Orchidists, and would not be difficult to prepare. We may admit both the utility of the suggested work and the appropriateness of the period, but another point is not so clear, for the amount of time and labour required for the undertaking would be very considerable. The matter would have to be compiled afresh, for no amalgamation of existing indices would meet the case, and it would be necessary to make a selection of the most important matter, so as to keep the thing within reasonable limits. We are giving the matter serious consideration, and should be glad to receive further suggestions from our readers, as the practicability of the work depends upon the amount of support received. We hope to be able to refer to the matter more definitely next month.

---

## LISSOCHILUS GRANTII.

LISSOCHILUS is a large and polymorphic African genus of terrestrial Orchids which is, perhaps, best known in gardens through the large and handsome L. giganteus, which has flowered in several collections. Several other species are occasionally met with, and among them the South African L. Krebsii, whose yellow and brown flowers are very attractive. An ally of the latter has just flowered in the collection of James Bush, Esq., Cardiff, which agrees well with L. Grantii, Rchb. f. (*Trans. Linn. Soc.*, xxix. p. 153), a species described from dried specimens collected by Messrs. Speke & Grant in December, 1860, during their expedition to the sources of the Nile. It was found near water at 4700 feet elevation on the Robeho Mountains, Usagara, German East Africa. The plant which has flowered with Mr. Bush was obtained from the Kisumu district, British East Africa. The scape is about three feet high, and the raceme is six inches long, and bears fourteen flowers, having an expanse of 1¼ inches. The sepals are spreading, brownish green in colour, and the petals nearly orbicular, over

half inch across, bright yellow behind and cream yellow in front. The lip is three-lobed, and the front lobe, which is sharply reflexed at the sides, so as to appear laterally flattened, is light yellow, while the side lobes are triangular-oblong, cream-coloured, with slate-coloured stripes below, and tinged with brown above. The spur is broadly conical, with a narrow red-purple apex about a line long. The inflorescence is rather more compact and the flowers smaller than in L. Krebsii.

R. A. R.

## CATASETUM TABULARE VAR. RHINOPHORUM.

A FINE plant of this distinct and striking Catasetum was exhibited at the R.H.S. meeting held on October 22nd, by Messrs. Sander & Sons, St. Albans. It originally appeared with Mr. William Bull, over thirty years ago, and was described by Reichenbach (*Gard. Chron.*, 1880, ii. p. 358). It was said to differ from the type in having the old surface of the callus broken up into innumerable irregular transverse toothed lamellæ, of white colour, with spots of burnt sienna, thus making one think of a file—hence the name. In the original form the callus is white and smooth.

R. A. R.

## THE CULTIVATION OF VANDA CŒRULEA AND V. SANDERIANA IN ENGLAND AND AMERICA.

I HAVE often wondered why the beautiful Vanda cœrulea is not more grown in private and commercial establishments, for its culture is quite simple if people would only try to do the right thing at the right time with their plants. I remember that in England we used to grow this species in baskets, in a mixture of charcoal and good living sphagnum moss, and after the plants had flowered they were kept rather on the dry side for about six weeks or longer, but were never allowed to shrivel. After this resting period the old compost was taken away from the roots and renewed every year with fresh material. The plants were suspended from the roof of the Cattleya house, and were watered with rain water to keep the sphagnum moss growing round the roots of the plants. The side ventilators, below the hot water pipes, were left open a little at night to keep a constant circulation of air round the plants, but not enough to allow a cold draught through the house at any time. Top ventilation was also used on very hot days in summer—this was in the South of England—and the plants were not heavily shaded. In the winter the shading was entirely removed for some weeks, and the temperature was kept at about 58° by night and 65° by day, or more by sun heat. The house was mostly closed in the afternoon at about 3.30, or later on hot days, according to the weather outside. Even temperatures and careful watering are two of the main points in growing this lovely Orchid.

In America the plant is not so difficult to cultivate as in England, for we get more light and sunshine throughout the year. It is wonderful to see how the plants will improve in America under different climatic conditions. Vandas are not shaded so heavily here as they are in England, although the plants get more light naturally.

I think that if I were growing Orchids in England again I should try to do away with as much shading as possible, and only have just thin blinds, that is, of course, for the Warm house Orchids. My method of growing Vanda cœrulea in America has been different from what it was in England, for most of them have been grown in pots and pans, with from one to two inches of crocks for drainage. Some were grown in osmunda fibre and some in polypodium fibre, and both potted as firmly as one could press in this material. There are very few places where a house is devoted to this plant alone, so that most of them are grown in the Cattleya house, as near the glass as possible. The ventilators should be opened as soon as the temperature rises above 68°, and as it goes down again in the afternoon to 65° or 70° close up the house, and the temperature will run up to 80°, or more by sun heat. The house should be damped down at closing time according to the weather outside.

I have found it a good plan to damp down with manure-water two or three time a week, chiefly when the plants are making their roots, and then discontinue it for a time. When watering the plants I give them a good soaking, and then let them get dry right through before watering them again. I may state that I never spray Vanda cœrulea overhead, as it is sometimes the cause of rot in the crown of the plant.

VANDA SANDERIANA is, without a doubt, one of the most lovely Orchids in cultivation, and the plant will do well if potted very firmly in osmunda fibre or polypodium fibre alone, with from two to three inches of crocks for drainage. Just before the plants are starting to make roots I have found to be the best time to pot them. They should be sprayed overhead two or three times a day on bright days, and should be grown in the Stove, or in a house that will not drop below 62° F. at night and 67° by day, or more with sun heat. As soon as the temperature rises above this, ventilation should be put on the houses, according to the weather outside. My method of watering the plants when growing them in osmunda fibre or polypodium fibre is to give them a good soaking and then let them get dry right through before watering them again, as the potting material will last for two or three years if the plants are watered at the right time. I find that they do much better in pots and pans, and they should be placed as near the glass as possible, but should not be in a draught at any time. The house should be ventilated from the top and from the sides below the hot water pipes. The houses are mostly shaded with lime-wash here, or with a thin coat of white

lead, but I think it is better still to have thin blinds, for one is able to give the plants more light. I have also damped down with manure-water two or three times a week, when closing the house in the afternoon, at the time when the plants are making new roots, and then discontinuing it for a few weeks. This Vanda, like many other Orchids, flowers very freely in California, on account of the bright weather throughout the year.

San Mateo, W. E. EGLINGTON.
California, U.S.A.

## CALENDAR OF OPERATIONS FOR NOVEMBER.

By J. T. BARKER, The West Hill Gardens, Hessle, E. Yorks.

FROM now onwards until the end of the year the figures given last month as regards the temperatures for the different departments will be applicable. Should cold or severe weather prevail a slight decrease will do no harm, provided there is no excess of atmospheric moisture. Owing to the delightful change in the weather of the last few weeks, and the increase in the amount of light the plants have received, they are ripening their growths and finishing much better than at one time seemed probable. The importance of light, especially at this season of the year, is not realised to the extent it ought to be, therefore the glass of the houses should be kept as clean as possible. I am aware that in smoky districts around our large cities this is more easily said than done, but if plants are to be grown satisfactorily the matter must be persevered with. The old axiom, nothing without pains, is applicable to all these small trifles which make for success.

ATMOSPHERIC MOISTURE.—The remarks made last month respecting this essential item in our practice still hold good, and the same applies to the ventilation of the houses. I am a great advocate for fresh air in the cultivation of Orchids, as I am firmly convinced that plants that are grown under these conditions are more capable of withstanding slight hardships than those that are coddled up without a breath of fresh air. Coddling in the cultivation of all plants is harmful, and Orchids are no exception. Undoubtedly many have been killed with kindness.

WATERING, to my mind, is the greatest item in our practice, and as the days shorten must have the greatest attention. At this season of the year no plant should have water applied to it unless it absolutely requires it, as many a plant receives its death-blow by the indiscriminate use of the water pot at this season. Too much wet is as harmful as too little. On the other hand, plants that like a dry rest must not be allowed to shrivel at any time, as shrivelling is debilitating. One should try to strike the happy medium.

DENDROBIUMS of the evergreen section which have completed their

growths, such as D. thyrsiflorum, D. densiflorum, and others of this class may be taken into the resting house and placed at the warmest end. They should not be kept so dry as those of the D. nobile section. The house in which these plants are rested should not at any time fall below 55°, or much harm may accrue.

LÆLIA ANCEPS, with its numerous varieties, should be thoroughly cleaned, the spikes neatly staked, and the plants placed in their flowering quarters, in a position where they will receive all the light possible, as they enjoy an abundance of light at all times. They may receive water at the roots whenever they become dry, but overhead syringing or spraying must now be discontinued. I do not advocate the use of the syringe during the winter months, as, owing to the water getting into the centres of young growths, it can easily be carried to excess, and much harm may be the result.

ANGRÆCUMS.—Angræcum sesquipedale is the best known species of this interesting genus, and there are two varieties, one that flowers during the summer, and the other late in the autumn. These plants require the warmth of the East Indian house all the year round, and a reasonable amount of atmospheric moisture should be retained about them at all seasons. They must not be allowed to remain dry for any length of time, but should have water whenever the sphagnum moss in which they are growing becomes white for want of moisture. When growing in this material, and with free drainage, there is little danger of over-watering, but if a more substantial compost, composed of peat or osmunda fibre is used, special care must be taken, because of the risk of the foliage being affected with black spots. These conditions will also answer the requirements of any of the large-growing Angræcums, such as A. eburneum, A. Veitchii, and others of this class. There are other Angræcums, of the smaller-flowered section, which bloom during winter and early spring, and require the same conditions as regards heat and moisture. The miniature kinds are best suspended within a reasonable distance of the roof glass, and they succeed in shallow pans or baskets in a compost of sphagnum moss. Careful watering is necessary at all times, and a close observation must be kept for thrip, scale, and other insect pests, which quickly disfigure the leaves of these rather delicate plants. A. Sanderianum, I find, succeeds best grown down on the stage in a fairly humid position.

PHALÆNOPSIS.—The fine clear weather of the last few weeks has proved very beneficial to the plants of this genus, especially after the great amount of wet, cold, and sunless weather we have experienced this season. Shading, even in this department, should now be dispensed with, and the division occupied with these plants should on all suitable occasions be well ventilated in order to consolidate the newly-made

leaves as much as possible. Water must be given with discretion, as the leaves and roots are very sensitive, and susceptible to injury. The plants should have water applied to the roots whenever they become dry, as if allowed to remain dry for any length of time the health of the plants will be impaired, and the proper development of the flower spikes now pushing up will be hindered. Care should be taken that the water used is of the same temperature as the house in which they are growing.

AËRIDES.—There are other inmates of the East Indian house that require careful treatment at this season. I refer to the various species of Aërides, Saccolabium, Rhynchostylis and their allies. They will now have completed their growths, and as root action ceases, the green tips of the roots become sealed over. When this occurs careful waterings are necessary, in fact only sufficient water will be required for some little time to keep the leaves plump and in a normal condition.

ODONTOGLOSSUMS.—Plants of O. Uroskinneri, O. bictoniense, and others that are growing fast and pushing forth roots from the base of their growths may be potted if necessary, and it is essential that the potting material should be thoroughly porous. These plants having thick fleshy roots, they should not be potted too firmly, and they are best placed at the driest and warmest end of the house.

CYPRIPEDIUMS.—Plants of the winter-flowering section, as the flower spikes become long enough, should be neatly staked, cleaned, &c., as advised last month, so that when in bloom there is no unnecessary moving the plants about, which may cause injury by rubbing and other means. The summer-flowering Cypripediums, now in full growth, must have water supplied to them whenever they become dry at the roots. The majority of these are lovers of heat, and are best grown in the warmest house, in a position which is fairly humid. A dry parched atmosphere is detrimental to Cypripediums at any time, and, being specially favourable to that formidable pest, thrip, must be avoided. Any plants of the Selenipedium section that require potting may be done at this season, using a compost as advised for the green-leaved members of this popular genus. The usual precautions must be taken in applying water to the newly-potted plants.

CATTLEYAS and LÆLIOCATTLEYAS.—Thanks to the hybridist, it is now possible to have these lovely flowers the whole year round, and they are invaluable for decorative purposes. They are unquestionably the most showy and desirable of Orchids for blooming during the autumn and winter seasons. Among the species now in flower are the lovely C. Dowiana aurea, C. labiata, and C. Bowringiana, while the hybrids which flower at this season are numerous, and differ enough in colour and form to satisfy the most fastidious, and everyone may gratify their individual taste. Many hybrid Cattleyas have the advantage of many of the species as regards the

length of time their flowers last in perfection, but it should be borne in mind that these large heavy flowers are very exhausting to the plants, therefore they should be cut after being open for a reasonable length of time. Many growers fail to realise this point, and often wonder why their plants deteriorate, especially after carrying a heavy crop of bloom. After the flowering stage is past the plants should be placed in a position where plenty of light and air can reach them, and have sufficient water to keep the roots and pseudobulbs healthy. They may still be repotted provided they are in the desired condition, namely, pushing forth new roots, the only danger being that of the plant becoming too wet before the roots get into the new compost.

MASDEVALLIAS.—Those plants that were potted at the end of August or beginning of September will now be rooting freely and making fresh growth, but they must still be watered sparingly, as should the compost be over-watered at this season the plants will lose their roots and take some time to recuperate. The black markings often seen on the leaves of Masdevallias are due to overwatering or an excess of moisture in the atmosphere. These plants deserve a more extended culture than they receive at the present time, especially the brilliantly-coloured ones. M. tovarensis is now developing its lovely spikes of pure white flowers, and if they have not already been moved from their summer quarters in the Cool house no time should be lost in placing them at the coolest end of an Intermediate house, where the flowers will develop more freely and last for a considerable time in full beauty. It is advisable to remove the old flower spikes when the flowers have faded, although, if allowed to remain, they will produce flowers again next season, but this being rather exhausting to the plants is not to be recommended.

ONCIDIUMS that have been grown in a cool temperature and are pushing up their spikes, such as O. varicosum and O. Forbesii, will be the better for a little more warmth, which will assist them in developing their flowers. There is a danger of the buds turning yellow and dropping off if allowed to remain in a low temperature.

GENERAL REMARKS.—Cleanliness being one of the greatest aids to good cultivation, everything at this season, when other work is not so pressing, should be done to make the plants, houses, &c., as clean as possible. Where room is limited this means an enormous amount of work, but this is the season of the year to attack insects and other pests. The principle item to be observed during the present month is the temperatures of the different houses, which must be maintained by careful stoking of the fires, as for some time now the health of our plants will greatly depend upon the manner this operation is performed. Excessive fluctuations are dangerous, therefore every care should be taken that no excess is permitted.

## CYCNOCHES CHLOROCHILON: FEMALE FLOWER.

THE annexed figure represents a female flower of Cycnoches chlorochilon which recently appeared in the Kew collection, and is reproduced, natural size, from a photograph taken by Mr. C. P. Raffill. Although the species was described as long ago as 1838, the female was not recorded until July, 1891, when it appeared in the collection of M. Houzeau de Lehaie, Hyon, Mons, Belgium, on a plant imported from Caraccas, and somewhat later with Messrs. Sander & Sons, St. Albans (Rolfe in *Gard. Chron.*, 1891, ii. p. 69). In both cases the female only was borne, though males appeared on other plants from the same importation. Shortly afterwards, however, both sexes appeared on a plant in M. Houzeau's collection (Rolfe, *l. c.*, p. 394). The difference between the sexes was pointed out as follows: The male is

Fig. 39. CYCNOCHES CHLOROCHILON: FEMALE FLOWER.

the form so long known in gardens, with slender column and pollinia normally developed; the female is distinctly larger and more fleshy than the male, and has broader sepals and petals. The ovary is more than twice as thick as the pedicel of the male flower, and more strongly grooved, and the column is scarcely half as long, but at least four times as thick. There are, of course, no pollinia, but a well-developed stigma, with a pair of large fleshy incurved wings on either side. The colour of the flowers is identical in the two sexes.

These characters stand in striking contrast with such a species as C. maculatum, which is figured at page 315, where the male flowers are much smaller and more membranous than the females, and the lip is reduced to a rounded disc with a number of marginal teeth. This dimorphism is still more marked in C. densiflorum, which is figured on the opposite page, where the difference between the sexes are so great that nothing short of their production upon the same plant would be accepted as evidence of their specific identity. In this connection we may recall the amusing history of C. Egertonianum (*O.R.*, xv. pp. 337-340, fig. 37), a species which was such a source of bewilderment to Bateman and his friends, and was hopelessly confused with C. ventricosum.

C. chlorochilon was originally discovered by Moritz, who sent specimens in 1836 from Maracaybo, Venezuela, to the Berlin Museum, from which the species was described by Klotzach two years later (*Allg. Gartenz.*, vi. p. 225). Shortly afterwards it was imported from Demerara by Messrs. Loddiges, in whose nursery it flowered for the first time in England, when it was figured by Lindley (*Sert. Orch.*, t. 16). It is now one of the best-known species in the genus, and is widely cultivated.

C. chlorochilon is further remarkable for the enormous number of seeds produced by a single capsule, which has been estimated as about four millions, a number far in excess of that known in any other Orchid. In other words, the progeny of a single flower, such as the one now figured, if all the seeds came up, would be about equal to the population of London. This capsule was from an imported plant obtained from Messrs. Hugh Low & Co. (*O.R.*, xvii. p. 168).

It is now known that the genus contains two very distinct sections, one, called Eucycnoches, in which the perianth of the two sexes is alike, or nearly so, and the other, called Heteranthæ, in which it is very diverse, especially in the shape of the lip. C. chlorochilon belongs to Eucycnoches, together with C. ventricosum, C. Loddigesii, and three others of which the female is still unknown. C. maculatum and C. densiflorum belong to Heteranthæ, which contains ten species, in seven of which both sexes are now known. For the history of this remarkable genus and a revision of the species, see *O.R.*, xvii. pp. 269-274.

R. A. R.

## CYCNOCHES DENSIFLORUM.

THIS striking species is a native of Colombia, and was collected by Mr. J. Birchenall at Simacota, near the River Opon, among some species of Mormodes. It flowered with Messrs. Hugh. Low & Co., in November, 1908, when the annexed photograph was taken, and was soon afterwards described (Rolfe in *Kew. Bull.*, 1909, p. 64). The plant passed into the

Fig. 40. CYCNOCHES DENSIFLORUM.

collection of the Rev. J. C. B. Fletcher, Mundham Vicarage, Chichester. The sepals and petals are light green, with some brown spots in the males and the lip white in both sexes. The difference in size and shape is shown in the figure, but we may add that when weighed on a letter balance a single female flower proved slightly heavier than twenty-three males.

## THE AMATEUR'S COLLECTION.

By C. ALWYN HARRISON, F.R.H.S.

### COOL HOUSE.

THIS month marks the starting point of winter treatment of Orchids, for, with few exceptions, the same cultural details may be continued till the following April. Writing some time before this appears in print, it is impossible to state exactly how much air and water should be given to the plants, but should the weather prove seasonable, carry out as far is practicable, the undermentioned rules for the various cultural operations :—

Throughout this and the following month, maintain an average temperature of 55° to 60° Fahr. by day, and 50° to 55° by night. Too much emphasis cannot be laid upon keeping an even degree of warmth at all times, fluctuations of temperature being most injurious. Damping and watering should be done as advised in my last month's article, but should either severe weather or much rain set in, be careful not to have the house cold and damp, as this causes spot on the leaves, and other fungoid diseases. It should be borne in mind that it is better to have the temperature a few degrees below the prescribed height in inclement weather, and only damp down lightly, than to close the ventilators early in the day, and thereby maintain the stated degree of warmth. Fresh air must always be admitted throughout the year, for Orchids derive much nourishment from this, and in greater proportion than other plants. The roof glass should always be washed after a fog, for all possible light is of vital importance to these Cool-house Orchids.

Should thrip be troublesome, and the usual method of checking it prove unavailing, sprinkle some sulphur on the hot water pipes, but where this is practised, all Orchids in bud and flower must first be removed, as the fumes injure them. During the usually damp weather now prevailing slugs are again active, and careful watch must be kept to prevent them from eating the young roots and flower spikes. A few fresh lettuce leaves laid on the staging offers great attraction to these pests, and cotton wool wrapt round the base of a spike prevents their reaching it, but the wool must be kept dry or it ceases to be of any use.

Odontoglossum grande should now be making a lovely show at the warmest end of this house, whilst some of the earlier winter-blooming Odontoglossums are now opening their blossoms. There is no doubt that Odontoglossum crispum is the most useful Orchid for an amateur's collection, for one can see varieties of this plant in flower at any season of the year, and its long arching spikes of white and tinted blossoms are extremely graceful and continue long in perfection. Some of its hybrids also flower at this season.

### CATTLEYA HOUSE.

As far as is practicable the thermometer should not be allowed to descend below 58° Fahr., for many Cattleyas and members of the allied genera are in full growth, and need heat to ripen their bulbs in lieu of the heat of the sun, which is obtained by those which complete their growth by the end of September. There is little doubt that sunlight is of the greatest value to this class of plants, and this fact is clearly borne out in an examination of the size of bulbs made by imported plants, and of those grown in the United States, where a greater proportion of sunlight is obtained. The damping down of this house and the watering of its inmates should be done as advised last month. There is little to be done now beyond maintaining the specified temperature, and creating a moist buoyant atmosphere.

Unless temperatures above 60° Fahr. by day and 55° at night can be successfully maintained, I should strongly advise amateurs to avoid Cattleya chocoensis, Eldorado, gigas, Dowiana, Hardyana, maxima, Skinneri, and Brassavola Digbyana, as these require a higher temperature to bring them to perfection, and nothing is more disheartening than to grow Orchids which are unsuitable, and which merely exist, and never make bulbs fit to flower. Weak plants of Cattleya, particularly of C. Mossiæ and Trianæ, are not worth house room, for they take years to develop properly, but strong sound pieces of these two species are excellent for amateurs' collections.

Vanda cœrulea is now at rest, and should receive merely enough water to prevent the leaves from shrivelling. Dendrobiums are still growing, and should be kept at the warmest end of the house, where they may be well syringed. When growth is completed they should be removed to a cooler house, and be kept comparatively dry, to ensure a good rest.

### SUGGESTED ADDITIONS.

LÆLIOCATTLEYA NYSA.—This is undoubtedly one of the finest autumn-flowering hybrids yet produced, and being of comparatively early raising, can be procured at a moderate price. For an amateur's collection it is invaluable, since it is free-flowering and of robust constitution. The blossoms are of a large size and pleasingly perfumed, the sepals and petals being pale lilac and the lip deep purple with golden veining in the throat. Its parents are Cattleya Warscewiczii and Lælia crispa, and all the varieties are good.

ONCIDIUM CRISPUM.—This is a pretty Cool-house species, and worthy of inclusion in every collection. Strong healthy plants are reasonable in price, and bear long branching flower spikes, the individual blossoms of which are of various shades of yellow and brown, and retain their beauty for several weeks. There have recently been importations of this fine species, and such plants should by now be breaking well.

## ONCIDIUM TIGRINUM AS A PARENT.

AT the present time, when Orchids are raised from seed with such striking success, it seems strange that comparatively little use has been made of the above species, but it is one of the easiest to obtain crosses from, and owing to its broad lip, should impart distinctive shape to hybrids derived from it. So far the only recorded hybrid from it seems to be O. hybridum (*O.R.*, xviii. p. 8), the first garden-raised Oncidium, of which O. lamelligerum is the other parent. O. tigrinum being a great favourite, I have at various times made crosses with it, having obtained healthy seedlings when uniting with it Odontoglossum crispum, Harryanum and Wilckeanum, also Cochlioda Nœtzliana. Last week I crossed it with Miltonia spectabilis var. Moreliana, and the cross appears to have taken. It is, however, a curious fact that I have never been successful in using it as the male parent, its pollen never seeming to have any effect when placed on the stigma of the various Odontoglossa. It would be interesting to know whether other seedlings of this species are in existence, and especially to know if anyone has crossed it with Oncidium crispum or its allies.

C. ALWYN HARRISON.

## DISAS.

ALTHOUGH upwards of 100 species of Disa are known to botanists, there are only about half-a-dozen in cultivation, for no one has up to the present been able to grow successfully the grassy-leaved section, of which D. graminifolia may be cited as an example, or such as D. crassicornis.

The three species generally met with are D. grandiflora, D. racemosa, and D. tripetaloides, while D. sagittalis and D. polygonoides are also to be seen occasionally. From the three former several hybrids have been raised, such as :—

D. Veitchii, racemosa × grandiflora.
D. kewensis, grandiflora × tripetaloides.
D. langleyensis, racemosa × tripetaloides.
D. Premier, tripetaloides × Veitchii.
D. Luna, racemosa × Veitchii.
D. Clio, grandiflora × Veitchii.

The hybrids, especially D. Veitchii and D. Luna, prove more amenable to cultivation than the species, but we believe that if their wants were more carefully studied all might be grown with a certain amount of success. In the following notes we shall endeavour to set out a method of treatment by which success can be attained, at any rate such plants as D. grandiflora and D. sagittalis, with D. Veitchii and other hybrids, flower annually, and increase their tubers.

POTTING.—First of all we would draw attention to repotting, which many growers say should be done in February, but the writer has found that this is too late, and in the culture of Disas we must remember that they have no resting period. The best plan to adopt is to repot immediately after the flower scapes are removed, taking away all decayed material or potting on without any disturbance where the soil is a mass of roots. Ordinary flower pots are chosen, and filled one-fourth of their depth with drainage, when they are ready to receive the base of the plant. The rooting medium should consist of the best fibrous loam one-half, sifting out all the fine particles, one-fourth good peat, and the remainder made up of chopped sphagnum moss, with a few handfuls of finely-crushed crocks or charcoal, to render the whole mixture porous. That excellent material, osmunda fibre, so highly prized by Cattleya specialists, has been tried, but we do not think it decays fast enough for such subjects as Disas. Hard potting is not recommended, but they must be made firm, and the soil can be brought up level with the rim of the receptacle.

WATERING.—Perhaps the most important factor is watering, particularly after being disturbed. For several weeks the compost ought only to be kept moist, but when giving water sufficient must be applied to wet the whole of the ball, or the plants will suffer, because roots soon find their way down among the drainage. As spring approaches, and root action becomes more vigorous, the amount of moisture must be increased, and at no time ought they to be kept dry at the roots.

THE GROWING QUARTERS.—It has been stated that Disas can be grown with Cape Heaths, and I do not contradict the statement, but the coolest end of the Odontoglossum house will suit them admirably, provided there is ample top ventilation immediately over the plants. Fresh air should be admitted, both winter and summer, excepting in frosty weather and during cold winds, and even then it may be possible to open the ventilator on the leeward side of the house.

SHADING is necessary, but a thinner canvas should be employed than is usually selected for Odontoglossums, and a gentle spray overhead will prove very beneficial during dry and hot weather.

THRIP will sometimes prove very troublesome, but the house must never be vapourised, or the tips of the leaves will turn brown and decay. An alternative method is to dip the plants in a weak solution of "XL all," or some other reliable insecticide. Do not on any account exceed the instructions given on the bottle, but preferably a little under the strength prescribed.

ORCHIDIST.

---

It may be interesting to give figures of the principal Disas mentioned in the foregoing article. D. Veitchii (fig. 45), the earliest hybrid of the group,

was raised by Messrs. James Veitch & Sons, and flowered in June, 1891, when it received a First-class Certificate from the R.H.S. It flowered in twenty-one months from the time the seed was sown. D. kewensis (fig. 43) was raised at Kew, and the first seedling was only eighteen months old when it flowered. D. langleyensis (fig. 44) was raised by Messrs. Veitch, and flowered in May, 1894, when it received an Award of Merit from the R.H.S.

Fig. 41. DISA PREMIER. 42. D. GRANDIFLORA. 43. D. KEWENSIS.
Fig. 44. D. LANGLEYENSIS. 45. D. VEITCHII. 46. D. TRIPETALOIDES.

It was also raised at Kew at about the same time. D. Premier (fig. 41) was raised at Kew, and flowered in October, 1893, when it received a First-class Certificate from the R.H.S. Two of the parents are also included, D. grandiflora (fig. 42), and D. tripetaloides (fig. 46), the other, D. racemosa, was not available when the photograph was taken. D. Luna and D. Clio are also not included.

## DENDROBIUM SCHUETZEI.

THE annexed figure represents the beautiful Dendrobium Schuetzei, Rolfe,

Fig. 47. DENDROBIUM SCHUETZEI.

a Philippine species introduced by Messrs. Sander & Sons, St. Albans, and for which they received a First-class Certificate from the R.H.S. on Sep-

tember 10th last (p. 308). The photograph, for which we are indebted to Messrs. Sander, represents the plant as exhibited. The species was introduced over a year ago, and was briefly described at page 224 of our last volume. It is an ally of D. Dearei and D. Sanderæ, but is dwarfer and more compact in habit, with stouter pseudobulbs. The segments are also much broader, as shown in the figure. The colour is pure white, with an emerald green blotch in the throat, and a few dark spots at the base. In its large white flowers it resembles the well-known D. formosum, which also belongs to the same group. It should prove a valuable horticultural acquisition. It will probably succeed under the same treatment as D. Dearei and D. Sanderæ. R.A.R.

## SOCIETIES.

### ROYAL HORTICULTURAL.

AT the meeting held at the Royal Horticultural Hall, Vincent Square, Westminster, on October 8th last, there was a fine display of Orchids from numerous exhibitors, and the awards consisted of six medals, one First-class Certificate, and four Awards of Merit.

Orchid Committee present: J. Gurney Fowler, Esq. (in the Chair), and Messrs. J. O'Brien (hon. sec.), R. A. Rolfe, J. Wilson Potter, W. Thompson, R. G. Thwaites, F. J. Hanbury, T. Armstrong, A. McBean, C. H. Curtis, J. Charlesworth, J. Cypher, W. P. Bound, J. E. Shill, H. G. Alexander, Arthur Dye, W. H. White, Gurney Wilson, William Bolton, J. S. Moss, de B. Crawshay, Sir Harry J. Veitch, and Sir Jeremiah Colman, Bart.

E. H. Davidson, Esq., Borlases, Twyford (gr. Mr. Cooper), received a Silver Flora Medal for a fine group of Orchids, including many good forms of Cattleya labiata, one, called Davidson's var. being very richly coloured, and having the front of the lip uniformly claret-purple, a beautiful form of C. Fabia with white sepals and petals and a richly-coloured lip, C. St. Gothard, Læliocattleya Virginia (L. purpurata alba × C. Harrisoniana alba), Sophrocattleya Leda, Oncidium varicosum, Odontoglossum Eric, a very dark claret-purple flower, and other good things.

H. T. Pitt, Esq., Rosslyn, Stamford Hill (gr. Mr. Thurgood), also received a Silver Flora Medal for an interesting group, including Odontoglossum grande, Odontioda Charlesworthii, Lælia monophylla, Brassocattleya Pittiana (C. Mrs. W. J. Whiteley × B.-c. heatonensis), a pretty rosy-lilac hybrid, the rare Houlletia Brocklehurstiana, Cypripedium Baron Schröder, Miltonia vexillaria, Cattleya suavior, C. Dusseldorfii var. Undin', C. Hardyana alba, C. intermedia, Fabia, Mantinii, Iris, some good Læliocattleyas, &c.

F. Ducane Godman, Esq., Horsham, sent Læliocattleya Godmanii var. Aurora, a handsome thing.

H. F. Goodson, Esq., Fairlawn, Putney (gr. Mr. G. E. Day), was awarded a Silver Flora Medal for a fine group, including the large and handsome Cattleya Iris var. King Edward VII., bearing five magnificent flowers, C. Hardyana Herbert Goodson, having white sepals and petals, and a richly-coloured lip, C. fulvescens, C. Rhoda, C. Phœbe, Zygocolax Veitchii, Læliocattleya bletchleyensis, L.-c. Elva var. Herbert Goodson,

Fig. 48. Cattleya Iris var. King Edward vii.

L.-c. Carmencita (C. Dowiana Rosita × L.-c. luminosa), Sophrocatlælia Elissa (S.-l. Gratrixiæ × C. Hardyana), Odontoglossum crispum Nellie Blanche, a fine white form with some brown spots on the sepals, and others

Lieut.-Col. Sir George L. Holford, K.C.V.O., Westonbirt (gr. Mr. H. G. Alexander), sent Læliocattleya Berthe Fournier var. Fascinator (L.-c. elegans × C. Dowiana aurea), bearing six large and richly coloured flowers,

L.-c. Priam (C. Harrisoniana × L.-c. callistoglossa), a very pretty hybrid, bearing a spike of six light-coloured flowers most resembling the former parent, and the handsome Cypripedium Draco Holford's var.

M. Firmin Lambeau, Brussels, sent the handsome Catasetum splendens var. imperiale, bearing a spike of flowers with ivory white sepals and petals, and the greater part of the lip reddish purple.

Sir Trevor Lawrence, Bart., K.C.V.O., Burford (gr. Mr. W. H. White), sent a plant of Cypripedium Rolfei Peeter's var., bearing a spike of two handsome flowers.

His Grace The Duke of Marlborough, Blenheim Palace, Woodstock (gr. Mr. G. Hunter), sent Cypripedium Jessie (Charlesworthii × Fairrieanum), a distinct and pretty hybrid of intermediate character, having the dorsal sepal veined and reticulated with purple on a light rosy ground, and the staminode also showing some of the Charlesworthii influence.

R. G. Mocatta, Esq., Addlestone (gr. Mr. Stevenson), sent Odontoglossum Jasper Woburn var., a very good form.

C. J. Phillips, Esq., The Glebe, Sevenoaks, sent Oncidium Forbesii grandiflorum, bearing a remarkably large flower, Læliocattleya Ophir Glebe var., and a few good Odontoglossums.

Pantia Ralli, Esq., Ashtead Park, Epsom, sent a good form of Cattleya Dowiana aurea.

W. Thompson, Esq., Walton Grange, Stone (gr. Mr. Stevens), showed a well-spotted form of Odontoglossum Nerissa (nævium × crispum), and Cypripedium Our Queen, a very handsome hybrid.

R. G. Thwaites, Esq., Chessington, Streatham (gr. Mr. J. M. Black), sent Odontioda Leeana, two O. Devossiana, Odontoglossum percultum, and some good forms of Cattleya Fabia.

E. Towson, Esq., Ellerdale, St. Albans, showed Cypripedium Ellerdale (bingleyense × insigne Harefield Hall var.).

Messrs. Sander & Sons, St. Albans, staged a very fine group, including the handsome Læliocattleya Britannia (C. Warscewiczii × L.-c. Canhamiana), L.-c. Fred. Gott, L.-c. La-France, the handsome Cattleya Fabia Rex, with white sepals and petals and a richly-coloured lip, C. fulvescens, C. Isis (Ella × Hardyana), a pretty rose-coloured flower with ruby-crimson lip and two yellow blotches in the throat, some good C. Iris, C. Hardyana Royal Sovereign, C. Freya (Mantinii × Dowiana aurea), Cirrhopetalum Micholitzii, Cycnoches stelliferum, bearing two long spikes of green male flowers, Oncidium Forbesii, O. Marshallianum magnificum, Brassocatlælia Astarte (L.-c. Martinetii × D. Digbyana), some good Brassocattleyas, Catasetum Russellianum, Epidendrum auritum, Sacco-labium acutifolium, Dendrobium superbiens, Cypripedium Chapmanii, and others (Silver-gilt Flora Medal).

Messrs. Stuart Low & Co., Bush Hill Park, staged a fine group, including some good examples of Oncidium varicosum and others, Dendrobium Phalænopsis, D. formosum, some good forms of Cattleya labiata, C. O'Brieniana alba, C. Iris, C. Gaskelliana Hodgkinsonii, C. Mrs. Pitt, C. Caducia, the pretty little Sophrolælia Gratrixiæ, Pleione lagenaria, Stenoglottis longifolia, Miltonia Bleuana, and others (Silver Flora Medal).

Messrs. James Cypher & Sons, Cheltenham, staged a good group, including a fine Cattleya Euphrasia with five flowers on a spike, C. Mantinii nobilior, C. suavior, Miltonia vexillaria Leopoldii, Cypripedium Gaston Bultel, Felicity, Maudiæ, Niobe superbum, Sir Redvers Buller, &c. (Silver Banksian Medal).

Messrs. Charlesworth & Co., Haywards Heath, sent a few choice Orchids, including Dendrobium Sanderæ, a pretty hybrid between Odontoglossum Rossii and O. Wilckeanum, Læliocattleya Colmaniana, Cattleya Fabia alba, and Stanhopea Shuttleworthii.

Mr. Sidney Flory, Orchid Nursery, Twickenham, sent two plants of Warscewiczella marginata and Pescatorea Dayana rhodacra, having rose-coloured tips to the segments.

M. Chas. Maron, Brunoy, France, sent Brassocattleya Olympia (C. Solfaterre × B.-c. Leemanniæ), a pretty light yellow hybrid, Cattleya Fabia alba, and C. Marguerite Maron (Eldorado alba × labiata Cooksoniæ), with white sepals and petals, and a bright purple blotch on the lip in front of the yellow disc.

Messrs. J. & A. A. McBean, Cooksbridge, sent Odontioda Graireana, O. Diana, some good forms of Odontoglossum crispum, Cattleya Rothschildiana albescens, and others.

### FIRST-CLASS CERTIFICATE.

CATTLEYA hybrid (Fabia alba × Warscewiczii Frau Melanie Beyrodt).—A very handsome thing, most like the former parent, and having white sepals and petals, and the lip ruby-purple in front, with some yellow veining in the throat. Exhibited by C. J. Phillips, Esq., The Glebe, Sevenoaks. (The award was made subject to a suitable name being given).

### AWARDS OF MERIT.

CATTLEYA HARDYANA VAR. HERBERT GOODSON.—A beautiful variety, having white sepals and petals, and a dark crimson-purple lip, with some yellow lines at the base. Exhibited by H. F. Goodson, Esq., Fairlawn, Putney.

CATTLEYA MRS. PITT CHARLESWORTH'S VAR. (Harrisoniana × Dowiana aurea).—A handsome form, having bright rose-coloured flowers with some yellow markings on the lip. Exhibited by R. le Doux, Esq., Marlfield, West Derby.

MILTONIA HARWOODII (C. Nœtzliana × M. vexillaria).—A beautiful

hybrid, bearing an erect spike of eight bright pink flowers, most like the Miltonia parent in shape. Exhibited by Sir Trevor Lawrence, Bart., K.C.V.O.

ODONTIODA CHARLESWORTHII ORCHID DENE VAR. (C. Nœtzliana × O. Harryanum).—A handsome form, having large deep crimson flowers, with a yellow crest to the lip. Exhibited by J. & A. A. McBean, Cooksbridge.

---

At the meeting held on October 22nd there was a magnificent display of Orchids, and the awards consisted of four First-class Certificates, six Awards of Merit, and six medals.

Orchid Committee present: J. Gurney Fowler, Esq. (in the Chair), Messrs. J. O'Brien (hon. sec.), Gurney Wilson, J. Wilson Potter, R. G. Thwaites, F. J. Hanbury, T. Armstrong, A. McBean, C. H. Curtis, W. Bolton, W. Cobb, J. Charlesworth, J. Cypher, W. H. Hatcher, J. E. Shill, H. G. Alexander, A. Dye, W. H. White, C. J. Lucas, Stuart Low, R. Brooman White, J. S. Moss, de Barri Crawshay, and Sir Jeremiah Colman, Bart.

Baron Bruno Schröder, The Dell, Englefield Green (gr. Mr. J. E. Shill), staged a small group of finely-grown Orchids, to which a Silver Flora Medal was awarded. It contained a fine Cattleya Dowiana aurea, with clear yellow sepals and petals, two plants of C. D. alba, with white sepals and petals and a very richly-coloured lip, C. Corona (Hardyana × Mantinii), a richly-coloured Læliocattleya George Woodhams (L. purpurata × C. Hardyana), and the white and green Cypripediums Alma Gevaert.

H. F. Goodson, Esq., Fairlawn, Putney (gr. Mr. G. E. Day), received a Silver Banksian Medal for a good group, including Sophrocattleya eximia, S.-c. Atreus, Sophrolælia Irene, with bright orange-coloured flowers, and a few other Sophronitis crosses, Cattleya suavior, C. Maggie Raphael Goodson's var., a large and richly-coloured form, a few good Læliocattleyas, Brassocattleya Veitchii Queen Alexandra, and a few plants of Odontoglossum crispum, and others.

Walter Cobb, Esq., Normanhurst, Rusper (gr. Mr. C. J. Salter), sent a handsome plant of *Zygopetalum* Charlesworthii Cobb's var., Læliocattleya Mrs. Temple, and Cattleya Fabia Cobb's var., a richly-coloured form.

Lieut.-Col. Sir George L. Holford, K.C.V.O., Westonbirt (gr. Mr. H. G. Alexander), sent Cattleya Mercutio (Harrisoniana × Lord Rothschild), a very pretty hybrid, bearing a spike of four flowers, most like C. Harrisoniana in colour but considerably enlarged.

R. le Doux, Esq., West Derby (gr. Mr. Fletcher), sent Cattleya Ena Marlfield var. (Hardyana × bicolor).

C. J. Phillips, Esq., The Glebe, Sevenoaks (gr. Mr. Bucknell), sent Cattleya Basil (Mantinii × Enid), C. Dowiana aurea Glebe var., with clear

yellow sepals and petals and a very richly-coloured lip, and Læliocattleya Bola (L.-c. callistoglossa × C. labiata), a large and richly-coloured form.

Messrs. James Cypher & Sons, Cheltenham, staged a group of choice Cypripediums, noteworthy among them being C. Fairrieanum, C. Sir Redvers Buller, C. insigne Sanderæ and Harefield Hall var., some good Dendrobium Phalænopsis, D. formosum giganteum, Cattleya Fabia, C. Dietrichiana, Miltonia vexillaria Leopoldii, Odontoglossum crispum, the rare Houlletia Brocklehurstiana, Masdevallia bockingensis, and others (Silver Flora Medal).

Messrs. Stuart Low & Co., Bush Hill Park, staged a very fine group, including forms of Cattleya labiata, maxima, Iris, Fabia, and others, a richly-coloured Læliocattleya Dominiana, Oncidium varicosum Rogersii and O. v. Lindenii, Odontoglossum Rolfeæ and amabile, Vanda cœrulea, a fine lot of Dendrobium formosum and D. Phalænopsis, Miltonia vexillaria Leopoldii, a good plant of Lælia Perrinii, Houlletia Brocklehurstiana, Epidendrum osmanthum, and others (Silver Flora Medal).

Messrs. Sander & Sons, St. Albans, staged a very fine group including some good forms of Cattleya Fabia, labiata, Hardyana, Iris, Portia, conspicua, Davisii, nobilis, Robert de Wavrin, Dido (Bowringiana × Iris), and other brilliant Cattleyas, Læliocattleya Nysa, Astoriæ, Cypripedium Chapmanii, C. Goldfinch, and others, Cœlogyne fuliginosa, Burlingtonia decora, Catasetum maculatum, the rare C. Christyanum, C. discolor, and a fine example of C. tabulare var. rhinophorum (Silver Flora Medal).

Messrs. Hassall & Co., Southgate, staged a very interesting group, including good forms of Cattleya labiata, Fabia, Hardyana, Mantinii, and Peetersii, two very distinct forms of C. Sylvia (Fabia alba × Dowiana aurea) from the same seed pod, one having light yellow sepals and petals, the other white, and both having a crimson lip veined with yellow, C. Hassallii (Empress Frederick × labiata), a very pretty hybrid, some good Læliocattleyas, and the rare Bulbophyllum comosum (Silver Banksian Medal).

Messrs. Charlesworth & Co., Haywards Heath, staged a few choice things, including a fine plant of Angræcum Dubuyssonii with a spray of ten flowers, the richly-coloured Oncidium varicosum Lindenii, some good forms of Cattleya Mantinii, Portia, and Hardyana, C. Fauna (Hardyana × Chamberlainiana), having the sepals and petals prettily mottled with orange and salmon colour, and the lip rich crimson, with some yellow veining on the side lobes, a handsome Læliocattleya from L.-c. callistoglossa × C. Mantinii, bearing six flowers, most like an improved edition of the latter, L.-c. Arachne, the rare Oncidium splendidum aureum, Cypripedium beechense, C. Gaston Bultel, Sophrocatlælia Leda, some good Odontoglossum grande, and others.

Mr. E. H. Davidson, Orchid Dene, Twyford, sent a few choice things,

including Cattleya Mantinii Fowler's var., a very dark form, C. labiata alba, a charming albino, Læliocattleya Orion var. J. Lakin (L.-c. Haroldiana × C. Dowiana aurea), a beautiful form, having pale yellow spreading sepals and petals, slightly freckled with rose, and a deep rose-coloured lip with some yellow veining, Sophrocatlælia Sibyl, a richly-coloured form, &c.

Mr. E. V. Low, Vale Bridge, Haywards Heath, sent Cattleya labiata Lady Duff, a good white form with a tinge of blush on the lip, and C. l. The Sultan, white with a purple blotch on the front of the lip.

Messrs. J. & A. A. McBean, Cooksbridge, staged a small group, including Sophrocatlælia Helen (S.-l. heatonensis × L.-c. Gottoiana), a handsome hybrid, having deep rose-coloured flowers shaded with violet, and a ruby-coloured lip, Cattleya Fabiata (Portia × Fabia), and C. Rothschildiana albens, a pretty light variety.

Messrs. Mansell & Hatcher, Rawdon, E. Yorks, sent a plant of the quaint Cirrhopetalum refractum, bearing three fine racemes, Oncidium ornithorrhynchum album, and a fine plant of the Colombian Oncidium panduriferum (Rolfe) with two spikes.

## FIRST-CLASS CERTIFICATES.

BRASSOCATTLEYA VEITCHII THE DELL VAR. (C. Mossiæ Wageneri × B. Digbyana).—A very large and beautiful white variety, with a primrose yellow disc to the well-fringed lip. Exhibited by Baron Bruno Schröder.

CATTLEYA LABIATA OPAL.—A charming white variety, with a yellow disc to the lip, and some clear pink veining in front. The plant bore four flowers. Exhibited by Baron Bruno Schröder.

CYMBIDIUM DORIS (Tracyanum × insigne).—A handsome hybrid, bearing an erect spike of ten flowers, most like the latter in general character, and having light yellow sepals and petals closely veined with red, and the lip spotted with red-brown on the front lobe, and veined with the same colour on the side lobes. Exhibited by J. & A. A. McBean.

CYPRIPEDIUM PALLAS-ATHENE (parentage unrecorded).—A very large and handsome hybrid, much like C. insigne Harefield Hall var. in general character, and having the dorsal sepal white above and green below, with some dark purple spots. Exhibited by W. R. Lee, Esq., Plumpton Hall, Heywood (gr. Mr. Branch).

## AWARDS OF MERIT.

CATTLEYA COMET VAR. PRINCESS MARY (Warneri alba × Dowiana).—A very beautiful hybrid, having white sepals and petals, and the lip with much yellow veining, and some purple markings near the base. Exhibited by Pantia Ralli, Esq., Ashtead Park, Epsom.

CATTLEYA MAGGIE RAPHAEL GOODSON'S VAR.—A large and handsome form, having light rose-coloured sepals and petals, and the lip crimson, with some yellow veining at the base. Exhibited by H. F. Goodson, Esq.

LÆLIOCATTLEYA DE HEMPTINNE (L.-c. ronselensis × C. Dowiana aurea).—A handsome hybrid, having orange-yellow flowers, tinged and veined with red on the lip. Exhibited by Count Joseph de Hemptinne, St. Denis, Ghent.

LÆLIOCATTLEYA GOLDEN ORIOLE HOLFORD'S VAR. (L.-c. Charlesworthii × C. Dowiana aurea).—A handsome hybrid, having large orange-red flowers, and a ruby-crimson lip with a yellow disc and similar veining on the side lobes. Exhibited by Lieut.-Col. Sir G. L. Holford.

SOPHROCATLÆLIA MENIPPE VAR. H. F. GOODSON.—A handsome hybrid, having rich reddish mauve flowers with a darker crimson lip. Exhibited by H. F. Goodson, Esq.

SOPHROCATLÆLIA SANDHAGE (C. Enid × S.-l. heatonensis).—A large and handsome hybrid, most like a Cattleya in shape, having deep rose-coloured sepals and petals, and a very dark ruby-crimson lip. Exhibited by Mr. E. H. Davidson, Orchid Dene, Twyford.

---

## MANCHESTER AND NORTH OF ENGLAND ORCHID.

AT the meeting held at the Coal Exchange, Manchester, on October 3rd, the members of Committee present were: Rev. J. Crombleholme (in the Chair), Messrs. R. Ashworth, J. Bamber, H. G. Bennett, J. Butterworth, J. C. Cowan, J. Cypher, J. Evans, J. Hanmer, W. J. Hargreaves, Dr. Hartley, W. H. Hatcher, W. Holmes, J. Lupton, D. McLeod, C. Parker, F. K. Sander, H. Thorp, *Z.* A. Ward, A. Warburton, and H. Arthur (Secretary).

W. R. Lee, Esq., Heywood (gr. Mr. Branch), was awarded a Large Silver-gilt Medal for a beautiful group of plants, including Dendrobium Phalænopsis Schrœderianum in great variety, D. Dearei, a number of Cattleya Dowiana aurea, C. Rosicrucian, several Odontoglossum grande, Cypripedium Maudiæ, Rossetti Bianca, Boltonii, Actæus langleyense, Gaston Bultel, Leeanum magnificum, and Brassocattleya Ajax.

*Z.* A. Ward, Esq., Northenden (gr. Mr. Weatherby), was awarded a Silver-gilt Medal for a group, composed principally of Cattleyas of the Iris section, several distinct varieties being observed, with C. conspicua, Mrs. Pitt, Pittiana, Armstrongiæ, Johnsonii, iridescens var. cuprea, Miss Williams, Cypripedium insigne Sanderæ, Hitchinsiæ, and Leoniæ.

R. Ashworth, Esq., Newchurch (gr. Mr. Branch), staged a pretty group, to which a Large Silver Medal was awarded. It contained fine examples of Cattleya Iris, Hardyana, Robiana, Odontoglossum crispum xanthotes Charlesworthii, Uroskinneri, Eleanor, and grande, Cypripedium Boltonii, Rossetti, Venus, Corneyanum, Memnon, Maudiæ, Lord Ossulston, and Cymbidium erythrostylum.

Col. J. Rutherford, M.P., Blackburn (gr. Mr. C. Lupton), was

awarded a Large Silver Medal for a nice mixed group of Cattleyas of the Iris section, C. Gaskelliana, C. G. alba, Cypripedium Chorltonii, Maudiæ, Rossetti, Epidendrum vitellinum, Odontoglossum Rossii albens, Odontioda Grarieana, Cymbidium Tracyanum, and Miltonia spectablis Moreliana.

Rev. J. Crombleholme, Clayton-le-Moors (gr. Mr. Marshall), was awarded a Silver Medal for a well-arranged group of Cypripediums, including C. Baron Schröder, Sir Redvers Buller, Milo, Chas. Richman, Hitchinsiæ, Lord Ossulston, Maudiæ, insigne Sanderæ, Rossetti, Actæus aureum, and insigne Chantinii Lindenii.

J. McCartney, Esq., Bolton (gr. Mr. Holmes), was also awarded a Silver Medal for a group composed of Cattleya Miss Williams, Lord Rothschild, Harrisoniana Hey House var., Princess Patricia, Miss Williams var. vernalis, Læliocattleya callistoglossa, and Cypripedium Shillianum.

O. O. Wrigley, Esq., Bury (gr. Mr. Rogers), staged Cypripedium Maudiæ (six plants), Odontoglossum grande (six plants), including var. aureum, Vanda cœrulea (four plants, one very brilliant in colour), Epidendrum vitellinum (six plants), and Cattleyas, including armain-villierensis with gigantic flowers.

R. le Doux, Esq., West Derby (gr. Mr. Fletcher), staged Cattleya Gottoiana Marlfield var., and C. Mrs. Pitt Charlesworth's var.

Messsrs. J. Cypher & Sons, Cheltenham, were awarded a Silver Medal for a group of Cypripedium Arthurianum triumphans, Niobe superbum, Sir Redvers Buller, Maudiæ, Fairrieanum, insigne Sanderæ, and i. Ernestii, Cattleya Mantinii nobilior, labiata, Odontoglossum grande, and Vanda Kimballiana.

Mr. J. Evans, Congleton, was also awarded a Silver Medal for a group of Cattleyas Armstrongiæ, Harrisoniana alba, Adula, Fabia, Thurgoodiana, gigas, Iris, Brassocattleya heatonensis, Odontoglossum crispum, a good round flower, also a blotched variety, and an Odontioda hybrid.

Messrs. A. J. Keeling & Sons, Bradford, were also awarded a Silver Medal for a mixed group, including Oncidium Forbesii, Cypripedium insigne Harefield Hall var. and others, Miltonia Bluntii Lubbersiana, Bulbophyllum maculosum, Odontoglossum bictonense album, and the rare Neobenthamia gracilis.

Messrs. Sander & Sons, St. Albans, staged a nice group, including Odontoglossum Cobra, Phœbe, amabile var. Jewel, Cypripedium Manhattan, Baron Schröder, Victory, Chapmanii, splendidum, Cattleya Adula, Davisii gigantea, Sunshine Sander's var., and Læliocattleya Phœnix.

Messrs. Mansell & Hatcher, Rawdon, staged some good forms of Cypripedium Charlesworthii, one gaining an Award.

Messrs. Hassall & Co., Southgate, staged varieties of Cattleya Warscewiczii,

Mr. W. Shackleton, Great Horton, staged a good form of Cypripedium Charlesworthii, a fine Odontoglossum crispum, Miltonia spectabilis Moreliana, and Cypripedium Clinkaberryanum × Lavertonianum.

Mr. J. E. Sadler, Newbury, sent two good Odontoglossum crispum.

FIRST-CLASS CERTIFICATES.

Cattleya Lord Rothschild Marlfield var., a fine flower of good even colour, with a well-lined lip, C. Lord Rothschild alba var. Dr. John Utting, a good form, with white sepals and petals, and a brilliantly-coloured lip, both from R. le Doux, Esq.

AWARDS OF MERIT.

Odontoglossum Ada Barclay and Cypripedium Domingo de Larranaga (nitens × Standard), both from R. le Doux, Esq.

Læliocattleya luminosa aurea (L. tenebrosa Walton Grange var. × C. Dowiana aurea), L.-c. Golden Oriole (L.-c. Charlesworthii × C. Dowiana aurea), Cypripedium bellatulum var. majesticum, Cattleya Apex (Enid × Mendelii), all from R. Ashworth, Esq.

Cattleya Germania Ward's var., from Z. A. Ward, Esq.

Cypripedium Troilus West Point var. (nitens × insigne Harefield Hall var.), from S. Gratrix, Esq.

Cypripedium Charlesworthii var. rawdonense, from Messrs. Mansell & Hatcher, Ltd.

FIRST-CLASS BOTANICAL CERTIFICATE.

Cymbidium lancifolium, from Mr. H. Arthur.

---

At the meeting held on October 17th, the members of Committee present were: Rev. J. Crombleholme (in the Chair), Messrs. J. Bamber, J. C. Cowan, J. Cypher, J. Evans, Dr. Hartley, W. Holmes, J. Lupton, D. McLeod, H. Morgan, C. Parker, H. Thorp, Z. A. Ward, A. Warburton, and H. Arthur (Secretary).

Mrs. A. K. Wood, Glossop (gr. Mr. Gould), was awarded a Silver-gilt Medal for a fine group of well-grown plants, including Cattleya labiata in variety, Fabia, Lord Rothschild, Mantinii, Læliocattleya Wilfred, Aphrodite, Gottoiana, Golden Oriole, Cypripedium nitens, insigne vars. Sanderæ, Balliæ, and Cobbianum, Vanda cœrulea, and Pilumna nobilis.

Z. A. Ward, Esq., Northenden (gr. Mr. Weatherby), was awarded a Large Silver Medal for a group, including Cattleya Fabia, Ella, Miss Williams, Cypripedium insigne vars. Sanderæ (30 plants), Harefield Hall var., Perfection, Prince of Wales, Laura Kimball, Dorothy, and Cringlewood var., Thalia Mrs. F. Wellesley, Actæus, fulshawense, Maudiæ, and the pretty Oncidium ornithorrhynchum album.

A. Warburton, Esq., Haslingden (gr. Mr. Dalgleish), was awarded a Large Silver-gilt Medal for a pretty group, including Cattleya Dowiana

aurea and Rosita, Fabia ardentissima, F. alba Vine House var., Maronii, labiata in variety, Cypripedium Maudiæ, Miss Louisa Fowler, Mrs. F. Wellesley, insigne rotundifolium, Prospero majus, Adam, Lord Ossulston, Bertie, Leeanum Corona, and L. magnificum.

R. Ashworth, Esq., Newchurch (gr. Mr. Branch), staged a fine group, to which a Large Silver Medal was awarded. It contained Cattleyas in variety, including Roehrsiana var. bella, labiata alba var. Wellmani, Fabia sanguinea, Armstrongiæ, Brassocattleya heatonensis and Lemanniæ, Odontoglossum crispum Mme. Linden, secundum, amabile and Waverley, Miltonia vexillaria Leopoldii, Cypripedium insigne Sanderæ, Actæus Drewett's var., Queen Alexandra, Corneyanum, and Oncidium Forbesii splendens.

Col. J. Rutherford, M.P., Blackburn (gr. Mr. Lupton), was awarded a Large Silver Medal for a group, composed principally of Cattleya labiata in variety, C. Mantinii nobilior, C. Dowiana aurea, Brassocattleya Leemanniæ aurea, Læliocattleya Dominiana langleyensis and Nysa, Odontoglossum crispum and Pescatorei, Odontioda Grarieana Beardwood var., Cypripedium Maudiæ, Niobe, and Epidendrum vitellinum.

J. McCartney, Esq., Bolton (gr. Mr. Holmes), staged a group, to which a Large Silver Medal was awarded. It contained Cattleya labiata, Dowiana and var. aurea, Empress Frederick var. King Edward VII., highburiensis var. Mary McCartney, Armstrongiæ, Læliocattleya callistoglossa, J. McCartney, and Cypripedium Lord Derby and Donald.

Rev. J. Crombleholme, Clayton-le-Moors (gr. Mr. Marshall), was awarded a Silver Medal for a nice group of Cypripediums, including Actæus revolutum, aureum, and magnificum, Hitchinsiæ vivicans and Perfection, insigne Sanderæ, Leeanum giganteum, Chas. Richman, Baron Schröder, triumphans, and Sanacderæ Cookson's var.

O. O. Wrigley, Esq., Bury (gr. Mr. Rogers), staged an interesting exhibit, consisting of thirty-two plants of Cypripedium Maudiæ, including twelve plants of the variety magnificum, and over thirty plants of Epidendrum vitellinum autumnalis.

William Thompson, Esq., Walton Grange (gr. Mr. Howes), staged Cypripedium Pyrrha, Arthurianum Walton Grange var., Charlesworthii Temeraire, Actæus Bianca, and Odontoglossum aspersoides.

R. le Doux, Esq., West Derby (gr. Mr. Fletcher), staged Cattleya Hardyana le Doux's var., exquisitum, and the handsome Brassocattleya Lemanniæ Marlfield var.

H. H. Bolton, Esq,, Newchurch (gr. Mr. Eastwood), staged Odontoglossum Thompsonianum Heightside var.

Messrs. J. Cypher & Sons, Cheltenham were awarded a Large Silver Medal for a nice group, including Cattleya Bowringiana atroviolacea and

Mantinii nobilior, Cypripedium insigne Harefield Hall var., Sanderæ, Bohnhoſianum, and Laura Kimball, Leeanum Corona, Gaston Bultel, Sir Redvers Buller, bingleyense, Felicity, and Dendrobium formosum giganteum.

Messrs. Charlesworth & Co., Haywards Heath, were awarded a Large Silver Medal for a group, including Cattleya Fabia alba, Nestor, F. W. Wigan, Læliocattleya Hera and Nortia, Brassocattleya Veitchii Queen Alexandra, Cypripedium Minos Youngii, Gaston Bultel, Baron Schröder, insigne Harefield Hall var., Odontoglossum cordatum and Jasper.

Messrs. Sander & Sons, St. Albans, staged a small group, including Cattleyas Hardyana, Peetersii, Fabia, Ella, nobilis, Atalanta, conspicua, Læliocattleya Walter Gott and Hon. Mrs. Astor, with Cypripedium dulce, Earl of Plymouth, leucoxanthum Cunninghamii, and Saccolabium acutifolium. A Silver Medal was awarded.

Mr. J. Evans, Congleton, staged a small group, to which a Silver Medal was awarded. It contained Cattleyas in variety, including Enid, Fabia, and Hardyana, several forms of Odontoglossum crispum, one being nicely blotched, and Cypripedium Germaine Opoix.

Mr. E. H. Davidson, Twyford, Berks, sent Cattleya Hardyana, and other fine things, which received Awards.

## First-class Certificates.

Cattleya Ena Marlfield var. (bicolor × Massaiana), a large flower with bronzy segments and well coloured lip; C. labiata Madam le Doux, having well-shaped pure white flowers, suffused with colour in the lip, and C. Mrs. Pitt Charlesworth's var., certainly one of the best forms seen, with large round flowers of a brilliant colour. All from R. le Doux, Esq.

Cattleya Enid Ward's var., a large well-set flower of even colour, with a well-veined lip. From Z. A. Ward, Esq.

Cypripedium Our Queen (Leeanum × Stevensii), a well-shaped flower, with apple-green lip, and the segments bronzy yellow and nicely marked. From Wm. Thompson, Esq., Walton Grange.

Cattleya labiata var. Queen of Spain, a good flower, having white sepals and petals, the lip slightly flushed with colour, and an orange throat, C. Enid Orchid Dene var. (Mossiæ × gigas), a well-set flower, of even colour, and the lip well veined; Brassocattleya heatonensis var. virginale (B. Digbyana × C. Hardyana alba), having creamy sepals and petals, and a large round fringed lip, Læliocattleya Colmaniæ Orchid Dene var. (L.-c. callistoglossa × C. Dowiana aurea), of good shape, and the lip large and deep velvety crimson in colour. All from Mr. E. H. Davidson.

Cattleya Basil. From Mrs. A. K. Wood, Glossop.

## Awards of Merit.

Odontoglossum scintillans (Rossii rubescens × Wilckeanum princeps). From Wm. Thompson, Esq.

Cattleya Portia magnifica, a fine form. From Mr. E. H. Davidson.

Owing to the increase of exhibits, it is desired by the Committee that Exhibitors hand a list of the plants staged by them at each meeting to the Secretary, so as to assist him in making out the report.

---

## NORTH OF ENGLAND HORTICULTURAL.

At the monthly meeting held at the Corn Exchange, Leeds, on October 17th and 18th, some very interesting Orchids were exhibited, and the Orchid Committee made the following Awards:—

A Gold Medal was awarded to Messrs. Mansell & Hatcher, Rawdon, Leeds, for a large group of Orchids.

A Silver-gilt Medal to W. H. St. Quintin, Esq., Scampston Hall, York (gr. Mr. F. C. Puddle), who shewed an interesting collection of seedling Cattleyas.

Bronze Medals to Mr. W. Shackleton, Bradford, for a small group; and J. H. Craven, Esq., The Beeches, Keighley (gr. Mr. F. W. Corney), for a collection.

### NOVELTIES.

First-class Diplomas to Cattleya The Bride, shown by W. H. St. Quintin, Esq., and Cypripedium Boltonii, shown by J. H. Craven, Esq.

Second-class Diplomas to Læliocattleya scampstonensis, showed by W. H. St. Quintin, Esq., and Cypripedium Charlesworthii, shown by Mr. W. H. Shackleton.

A Challenge Cup, value 80 guineas, was offered for the best exhibit in the Show, and was won by J. Pickersgill, Esq., Leeds (gr. Mr. Donoghue), for a large miscellaneous group of plants, including some good Cattleyas and Oncidiums. A Gold Medal was also awarded.

---

## ORCHIDS IN SEASON.

A HANDSOME form of Læliocattleya Barbarossa is sent from the establishment of Messrs. James Veitch & Sons, Langley, Bucks., by Mr. T. A. Briscoe. It was raised from L.-c. callistoglossa crossed with Cattleya Trianæ, and bears a considerable resemblance to the original form raised by Lt.-Col. Sir George L. Holford, of which a flower was sent to us (*O.R.*, xv. p. 373). The sepals and petals of Messrs. Veitch's plant are rosy lilac, the front of the lip and apex of the side lobes intense purple-crimson, and the throat orange.

A flower of a handsome hybrid Cypripedium, derived from C. nitens magnificum × Thompsonianum, is sent from the collection of O. O. Wrigley, Esq., Bridge Hall, Bury, by Mr. Rogers. The dorsal sepal is closely spotted with purple on a white ground, and a broad purple median band extends nearly to the apex. The petals are uniformly red-brown, and

the lip rather lighter in colour. The influence of C. Spicerianum is very marked in the staminode and dorsal sepal, and of C. villosum in the richly coloured shining petals, but the insigne spotting is more copious than would have been expected.

A flower of a handsome hybrid, derived from Cypripedium insigne Sanderæ × Chamberlainianum, is sent from the collection of Mrs. Ardern, Bonis Hall, Prestbury, Macclesfield, by Mr. A. Oliver. It has a much more yellow ground colour than the typical C. Fowleræ, and the sepals and petals are closely spotted with brown.

## ORCHID NOTES AND NEWS.

THE next meeting of the Royal Horticultural Society is the Special Show of Autumn-flowering Orchids to be held at the Royal Horticultural Hall, Vincent Square, Westminster, on Tuesday and Wednesday, November 5th and 6th, of which particulars were given at pages 190, 318. The Orchid judging commences at 10 a.m. on November 5th, and the Orchid Committee meets at 11.30 a.m. The schedule of prizes was published at page 230 of our August issue. The Conference on the second day will be held from 11 to 1 o'clock and from 2 to 4 in the afternoon.

A second meeting will be held at the Royal Horticultural Hall, on November 19th, when the Orchid Committee will meet at the usual hour, 12 o'clock noon. The following meeting will be held on December 3rd.

Two meetings of the Manchester and North of England Orchid Society will be held at the Coal Exchange, Manchester, during November, on the 7th and 28th. The Committee meets at noon, and the exhibits are open to members and the public from 1 to 4 p.m. The following meeting will be held on December 7th. A special meeting will also be held on Thursday, November 14th, in the Town Hall, Manchester, in conjunction with the Chrysanthemum Show of the Royal Botanical Horticultural Society of Manchester. All members desiring to exhibit must notify the Secretary not later than November 7th of the space required, so that satisfactory arrangements can be made.

At a meeting of the Carlisle and Cumberland Horticultural Society, held on September 4th and 5th last, a Silver Medal was awarded to Sir Benjamin Scott, Mayor of Carlisle, for a fine group of Orchids.

Mr. Albert C. Smith has been appointed Manager of the firm of C. F. Karthaus, Potsdam, Germany, in place of Mr. Blossfeld. Mr. Smith has been with the firm for two years as foreman. Previously he was with Messrs. James Veitch & Sons, at Langley, afterwards with the late Baron Schröder, The Dell, Englefield Green, and then with Messrs. Sander & Sons, St. Albans.

R.H.S. Scientific Committee: The following references to Orchids exhibited at the meetings of the Committee are taken from the Official Report (continued from page 320:—

October 8th, 1912:—

BULBOPHYLLUM GENTILII.—Mr. O'Brien showed, on behalf of Sir Frederick Moore, a specimen of Bulbophyllum Gentilii, Rolfe (see *Orchid Review*, October, 1912, p. 314). This species has the nectar glands placed on the upper side of the dorsal sepal. It has been confounded with B. Calamaria (*Bot. Mag.*, 4088), and the two species are mixed in herbaria.

NOMENCLATURE OF ORCHID HYBRID.—The Committee considered the question of the nomenclature of a hybrid Orchid referred to it by the R.H.S. Council. The alleged parentage was Cattleya Fabia alba (C. labiata × C. Dowiana aurea), × C. Warscewiczii var. Frau Melanie Beyrodt, and the name suggested for the seedling was C. Harrisiana. The Committee considered that this name transgressed the recommendations of the Vienna Botanical Congress regarding plant names in that it was too much like existing names in the same genus, thereby tending to confusion (*e.g.*, Cattleya Harrisoniana, C. Harrisii and C. Harrisiæ); the name was, therefore, not tenable. Further, they thought that although Art. xii. of the Rules of Horticultural Nomenclature (*Journ.* R.H.S., xxxvii. p. 151), permitted the use of names of Latin form (with sign of hybridity), for such cross-bred plants as this, it would be more convenient if vernacular names were chosen, generally from the classics. In the instance under consideration, the Committee recommended that the exhibitor should be asked to choose such a name.

## ORCHID PORTRAITS.

CYPRIPEDIUM MRS. BOSTOCK.—*Journ. Hort.*, 1912, ii. p. 323, with fig.

CYPRIPEDIUM PALLAS ATHENE.—*Gard. Mag.*, 1912, pp. 813, 826, with fig.

ODONTIODA LAMBEAUIANA WESTONBIRT VAR.—*Gard. Chron.*, 1912, ii. p. 285, with coloured plate.

## ANSWERS TO CORRESPONDENTS.

*[Orchids are named and questions answered here as far as possible. Correspondents are requested to give the native country or parentage of plants sent. An* ADDRESSED *postcard must be sent if a reply by post is desired (abroad, reply postcards should be used). Subjects of special interest will be dealt with in the body of the work.]*

T.B., Medellin.—The flower sent is Cypripedium Roezlii, Rchb. f. You are correct in supposing it to be indigenous.

J.B., Mexico.—The flowers arrived completely decayed and mouldy. Please press them flat between a few sheets of blotting paper, like dried specimens. They cannot be sent fresh such a distance.

A.G.—There is a white form of Vanda cœrulea with a blue lip. We should like to see a flower.

Received with thanks.—G.H.M., G.P.P., E.F.C.—Next month.

VOL. XX., No. 240. THE DECEMBER, 1912.

# ORCHID REVIEW

Edited by R. ALLEN ROLFE, A.L.S.

Contents.


| | PAGE |
|---|---|
| Amateur's Collection ... ... ... | 356 |
| Answers to Correspondents ... ... | 376 |
| Calendar of Operations for December ... | 362 |
| Cattleya Peetersii Westonbirt var. ... | 357 |
| Cypripedium Franchetii ... ... ... | 358 |
| Dialælia Veitchii and its parents ... ... | 361 |
| Lowiara insignis ... ... ... ... | 360 |
| Odontoglossums from Edgbaston ... ... | 355 |
| Orchid Conference ... ... ... ... | 354 |
| Orchid Notes and News ... ... ... | 375 |
| Orchid Portraits ... ... ... ... | 376 |
| Our Note Book ... ... ... ... | 353 |
| Societies— | 366 |
| Manchester and North of England Orchid | 374 |
| Royal Horticultural Society's Show of Autumn-flowering Orchids ... ... | 366 |
| Westonbirt, Some Rarities at ... ... | 360 |
| Xylobium bractescens ... ... ... | 359 |

ILLUSTRATIONS.

| | |
|---|---|
| Cattleya Peetersii Westonbirt var. | Frontispiece |
| Cypripedium Franchetii ... ... ... | 358 |
| Diacrium bicornutum ... ... ... | 361 |
| Dialælia Veitchii ... ... ... ... | 361 |
| Lælia cinnabarina ... ... ... ... | 361 |


**** *TITLE PAGE, FRONTISPIECE AND INDEX.*

**PRICE SIXPENCE MONTHLY.** POST FREE **7/-** PER ANNUM—SEE OVERLEAF.


# SANDER & SONS.

We receive fortnightly fresh consignments of the best

**OSMUNDA FIBRE**

from our own freehold lands, situated in the best Osmunda producing territory of the United States of America. Price per bushel, **2/6**; per bag, **8/6**.

BY APPOINTMENT TO HIS MAJESTY THE KING.

# *William Bull & Sons*

**WORLD-RENOWNED ORCHIDS.**

HYBRIDS A GREAT SPECIALITY.

Catalogue free on application.

**KING'S ROAD, CHELSEA, LONDON.**

# NOTICES

The ORCHID REVIEW is published regularly at the beginning of each month price 6d. net. Annual Subscription, post free, 7/-, payable in advance.

Volumes I. to XIX. can be supplied unbound at 6/-, or bound in cloth, 7/6, postage extra.—Cost of postage: book post, 9d. per volume; parcel post within the United Kingdom only, 5d. per single volume (series by weight).

Also cases for binding either volume at 1/6 each, post free throughout the postal union.

The ORCHID STUD-BOOK. By R. A. Rolfe and C. C. Hurst. By Parcel Post, 7/11. Abroad, by Book Post, 8/3.

All Subscriptions, Advertisements, Communications and Books for review, should be addressed:—The **Editor of the Orchid Review**, Lawn Crescent, Kew.

Cheques and Postal Orders (sent as above) should be made payable to FRANK LESLIE & Co., and, to ensure safety in transit, should be crossed "& Co."

---

*Agents for copies supplied through the Trade—*

**MARSHALL BROTHERS, Ltd.**, KESWICK HOUSE, PATERNOSTER ROW, LONDON, E.C.

---

## SCALE OF CHARGES FOR ADVERTISEMENTS.

| | £ | s. | d. |
|---|---|---|---|
| Five lines and under in column ... | 0 | 2 | 6 |
| Per line after ... ... ... ... | 0 | 0 | 6 |
| One-eighth column... ... ... ... | 0 | 4 | 0 |
| Quarter column or eighth page ... | 0 | 7 | 0 |
| Half column or quarter page ... | 0 | 12 | 0 |
| One column or half page ... ... | 1 | 2 | 6 |
| Whole page ... ... ... ... ... | 2 | 0 | 0 |

---

The Editor invites communications on interesting subjects (which should be written on one side of the paper only), also portraits, &c., of rarities.

Advertisements and late news should be received not later than the 24th of the month.

---


# CHARLESWORTH & Co.,

ORCHID RAISERS, GROWERS,
IMPORTERS AND EXPORTERS,

# HAYWARDS HEATH,

SUSSEX,

Invite their Patrons and Friends to pay them a visit of inspection at their New Establishment,

——————where may be seen the——————

## Finest Trade Collection of Orchids In Europe.

A Conveyance will be at the Railway Station to meet Visitors, upon notification being kindly given.

CONTINENTAL BRANCH—RUE GERARD, BRUSSELS.

Telephone No. 50 Haywards Heath.

Telegrams:—Charlesworths, Haywards Heath.

Please Address—CHARLESWORTH & Co., Haywards Heath, Sussex.

# THE ORCHID REVIEW.

VOL. XX.] *DECEMBER*, 1912. [No. 240.

## OUR NOTE BOOK.

THE Special Show of Autumn-flowering Orchids held by the R.H.S. on November 5th and 6th last was a magnificent success, and brought together such a display of Orchids as has not previously been seen in the month of November. The groups staged, both by amateurs and the trade, were excellent, but the magnificent group of Vanda cœrulea, of Cattleyas and allies, and of Cypripediums staged by Sir George L. Holford will long be remembered for their excellence. The award in the two former classes of Silver-gilt Lindley Medals for excellence of culture, in addition to the Gold Medals offered, was a fitting tribute to the cultural skill of Mr. H. G. Alexander, whose abilities in this department are so well known. The group of Cypripediums gained the Davidson Cup. The arrangement of the show was also a great improvement on the long straight lines of ordinary meetings, and the diagonal and circular stands on which individual groups were staged was both novel and picturesque. Particulars of the competition are given in our report.

---

There were, as usual, a number of unfilled classes, and perhaps the season was unsuitable for a group of Odontoglossums and Odontiodas. On the other hand, so many hybrids of the two "lost Orchids," Cattleya labiata and Cypripedium Fairrieanum, were scattered about the Hall that it is a matter for regret that special classes were not provided for them. Perhaps it can be arranged in the future, as a general desire was expressed for a repetition of the fixture.

---

The Conference on the second day was also very successful, four important papers being read. Part of it is reported on another page, but the pressure on our space, caused by the annual Index, has necessitated the postponement of the greater part until next month, together with other reports and important papers.

---

With the present issue the *Orchid Review* completes its twentieth volume, and to commemorate the event our January issue will be an

enlarged and special number. Some other developments are in contemplation, as we desire to make the work representative of every phase of Orchidology. In this we invite the co-operation of all lovers and growers of Orchids, and we hope to receive their continued support and interest. The proposal to prepare a General Index to the twenty volumes, on the lines mentioned last month (p. 322), has brought us several letters of approval, and it is interesting to find that an American reader has prepared a Card Index of cultural details for his own use. We have decided to prepare a General Index, and will give particulars when the matter is further matured. Meantime we invite suggestions from our readers.

## THE ORCHID CONFERENCE.

THE Orchid Conference was held in the Lecture Room at the Royal Horticultural Hall, Westminster, on Wednesday, November 6th, before a good attendance, J. Gurney Fowler, Esq., Treasurer of the Society, in the Chair. In opening the proceedings, at 11 a.m., the Chairman alluded to the magnificent show of autumn-flowering Orchids in the Hall, and remarked that the proposal to hold a Conference in connection with it had been well received, and the present meeting was the result, four important subjects being down for discussion.

The first paper was by Prof. F. Keeble, M.A., F.L.S., on the Physiology of Fertilisation. The subject was illustrated by a number of lantern slides showing phases of the result of pollination, and the lecturer remarked on the series of events following the application of the pollen to the stigma, and in the case of Orchids the considerable time that elapsed before fertilisation was effected. Pollination supplied a stimulus to development of the ovules, the pollen tubes grew down the tissue of the style, and ultimately the nuclei of the male and female cells fused together, forming a single cell, or zygote, which then matured as a seed, and gave rise to the future plant. It was formerly thought that the ovule could not develop without the influence of the male element, but it was now known that many plants can produce seed without fertilisation, the process being known as parthenogenesis. *Zygopetalum Mackayi* had been pollinated by Odontoglossum and various other Orchids, but the resulting seedlings showed no hybrid character at all, which suggested a stimulative influence only. The influence of pollination might be threefold—(1) fertilisation; (2) stimulation; and (3) chemical.

In the subsequent discussion, Mr. J. O'Brien mentioned how the application of mineral dust to the stigma of Miltonia Russelliana was sufficient to make the segments of the flower wither, and mentioned a statement by the late Consul Lehmann that the commoner varieties of Colombian Odontoglossums found growing in exposed places were some-

times laden with seed capsules, while choice varieties growing in shady places seldom seeded. It might be due to dust blown on the stigma.

Mr. R. A. Rolfe wished that someone would conduct a series of experiments with Zygopetalum Mackayi in the same way that Mr. Veitch did with Cattleya Mossiæ. It would then be possible to see whether the pollen tubes reached the ovules. He thought not, for the seedlings were always pure Zygopetalums, and he believed they were simply developed from parthogenetic buds as a result of the stimulus of pollination.

Mr. Thwaites raised the question whether two or more distinct hybrids could be produced from the same seed pod. He thought it had been done. The lecturer replied that he thought it possible, and Mr. Crawshay stated that he fertilised Odontoglossum Harryanum with both crispum and Lambeauianum, and obtained both O. crispo-Harryanum and O. rosefieldiense. Sir Harry J. Veitch said his experience was that if the pollen of several species were used only one took effect. Mr. Hatcher spoke of using the pollen of both Miltonia vexillaria and an Odontoglossum on another Odontoglossum, and the seedlings were different from ordinary Odontoglossums. Messrs. J. M. Black, Gurney Wilson, F. J. Hanbury, and A. A. McBean also spoke.

## ODONTOGLOSSUMS FROM EDGBASTON.

SOME time ago an inflorescence of a handsome hybrid Odontoglossum was sent from the collection of W. Waters Butler, Esq., Southfield, Edgbaston, which is described at page 111 under the name of O. hellemense var. Butleri. The seedling was purchased unflowered, and there was a little uncertainty as to which of two specified crosses it came from, but we thought that the flower indicated O. loochristiense Vuylstekeanum × O. crispum Rossendale. Mr. Butler afterwards sent paintings, by Miss Roberts, of flowers from both crosses, with a note on their history. The seedling sent to us was the second to flower out of a batch of five, three of which have now bloomed, and, Mr. Butler remarks, only varied slightly in form and colour. The first he had painted, and the painting now sent agrees well with the description already given. The plants were purchased at the Elmswood sale, at which also Mr. Butler secured five other seedlings in one lot, two of which have now flowered, and are said to have been very similar. A painting of one of them is also sent, and it shows very broad white sepals and petals, the latter well toothed, with eight to ten rounded, somewhat confluent cinnamon brown spots, and a round lip with a large cinnamon blotch in front of the crest. Mr. Butler states that this batch was purchased with the record above given, and as there is a distinct resemblance to O. triumphans in the shape of the lip we now think, with the two paintings now before us, that this one must be a form of O.

hellemense. The other record was O. crispum Rossendale × O. Wilckeanum Alexandræ, which would yield a form of O. mirum, and there is a certain resemblance to O. luteopurpurem in the shape and markings of the lip. As already mentioned, there was originally a little uncertainty, but the additional materials have thrown a new light on the matter. O. crispum Rossendale received an Award of Merit from the R.H.S. in March, 1904, and was described as a white form tinged with purple, and having large red-brown blotches on the lower halves of the segments (*O.R.*, xii. p. 115). It appears to be one parent of both the above hybrids. O. Wilckeanum Alexandræ received a First-class Certificate at Manchester in the January previous (*l.c.*, p. 54).

## THE AMATEUR'S COLLECTION.

By C. ALWYN HARRISON, F.R.H.S.

### COOL HOUSE.

THE main points to be observed in the culture of the inmates of this house are to maintain an even temperature and a moist atmosphere. Beyond paying strict attention to these points, there is little to be done in the Orchid house from now until the beginning of February. The leaves of all plants should be frequently washed with clear tepid rain water, and the pots occasionally scrubbed, but these matters are only of secondary importance, and do not come under the daily routine of Orchid house work. If possible, admit fresh air every day, even if the ventilators can only be opened for a short time. The thermometer should never descend below 45° Fahr., unless exceptionally cold weather prevails. Should it fall below the prescribed degree, no water must be given to any plant until the correct degree of warmth is again reached.

Keep a sharp look-out for slugs, which are active during the autumn months, for many hybrid Odontoglossums will be in spike. It is doubtful whether the hybridist has produced anything more useful and beautiful than the winter-flowering Odontoglossum hybrids. Many of these can now be procured at reasonable prices, and their value for decorative purposes at a time when bloom is scarce can hardly be over-estimated. I should strongly advise amateurs to purchase hybrids in which Odontoglossum Harryanum is in some way concerned as a parent. This is a very vigorous-growing Orchid, and imparts a strong constitution to all its progeny. Some of the best hybrids in which this Orchid is either a primary or secondary parent are O. amabile, Charlesworthii, Crawshayanum, Leo, Othello, Rolfeæ, spectabile, and Wattianum.

### CATTLEYA HOUSE.

There is likewise little to be done during the present and subsequent months in this house, beyond the daily details of watering and heating,

which were fully described in last month's article. If possible, let 50° Fahr. be the minimum temperature registered at night, with a rise of from five to ten degrees during the day. General cleansing operations can be carried out in this house when required, but unless an immense stock of plants be possessed, this will be the matter of a few hours only.

Remove any Cattleyas which are in sheath and any Orchids in bud to the warmest end of the house, where their blossoms will expand more freely. Cattleya Percivaliana and C. Trianæ will probably be showing flowers at the base of the sheath. Be careful not to over-water them, or the buds will turn black and the sheath become blind. Lælia anceps will be making a good display now, and is invaluable in every collection, owing to its free-blooming character, coupled with the fact that it is easy to grow. I cannot, however, recommend any of its hybrids for growing in a small amateur's collection, for there are many superior crosses which are more suitable, by reason of the increased size of their flowers.

The flower spikes on many Dendrobiums will now be visible, more especially on D. Wardianum, crassinode, and nobile. Leave the plants still at the coolest end of the house, and do not give much water until the formation of flower buds is distinctly visible, for, under the influence of increased heat and moisture, these will, during their earlier stages, be liable to turn to growths.

Vanda cœrulea should be kept almost dry at the roots, otherwise the dreaded spot will make its appearance. Should any of this be present, the affected leaves must be cut away, close to the brown spotting, and some slaked lime rubbed in.

## CATTLEYA PEETERSII WESTONBIRT VAR.

(See *Frontispiece*).

THE Frontispiece to the present volume consists of a fine specimen of the beautiful Cattleya Peetersii Westonbirt var., to which a First-class Certificate was given by the R.H.S. on November 5th last. The plant bore six flowers, having pure white sepals and petals, and a rich purple-crimson lip, margined with white, and with some bright yellow veining on the disc and sides of the throat. A plant was exhibited at a meeting of the R.H.S. on January 9th last, when the parentage was given as C. labiata G. G. Whitelegge × C. Hardyana alba: and the colour was recorded as white, with a deep rose lip, veined with yellow at the base The C. labiata parent is well known as one of the finest whites in existence, with a large bright purple blotch on the front of the lip. C. Hardyana alba has white sepals and petals and a richly-coloured lip, and thus the hybrid has pretty much the character that might have been expected. It is a gem of the first water.

## CYPRIPEDIUM FRANCHETII.

UNDER the title, "A new Mocassin Flower (Cypripedium Franchetii)," Mr. E. H. Wilson writes in the American Journal, *Horticulture* (1912, p. 145), as follows: "On my last expedition (1910) for the Arnold Arboretum, I was fortunate enough to succeed in introducing from the Tibetan borderland living plants of three new and beautiful hardy Cypripediums. Two of these flowered in the spring of last year and were illustrated in these columns, July 8th, 1911. The third species flowered early in June, 1912, in the Arnold Arboretum. As will be seen from the accompanying photographic illustration, this new species, named in honour of the distinguished

Fig. 49. CYPRIPEDIUM FRANCHETII, Rolfe.

French botanist, the late Monsieur A. Franchet, in a general way resembles the Siberian C. macranthum, differing chiefly in its more hairy foliage and certain technical details. Like its allies, C. luteum and C. tibeticum, this new-comer promises to succeed under cultivation, and should prove a welcome addition to gardens. All three are natives of upland regions, and require a moist, shady situation, and a compost rich in decaying leaves."

Through the kindness of the Editor of *Horticulture* we are able to reproduce the figure of this interesting Cypripedium, and will now give its

history, as promised to Mr. Wilson some time ago. The name Cypripedium macranthum seems to have been extended so as to cover a small group of allied species which are somewhat difficult to determine from dried specimens. These are C. tibeticum, King (*Bot. Mag.*, t. 8070), C. himalaicum, Rolfe (*King and Pantl. Orch. Sikkim*, viii. t. 448), the Japanese C. speciosum, Rolfe (*Bot. Mag.*, t. 8386), and the present one, which was partly included by Franchet (*Journ. de Bot.*, 1894, p. 233), followed by the writer (*Journ. Linn. Soc.*, xxxvi. p. 66). In a dried state C. Franchetii is easily separated from C. macranthum by its more copiously villous stems, a character also found in the yellow-flowered C. luteum, Franch., to which two fruiting specimens of C. Franchetii were also wrongly referred, until, in company with Mr. Wilson, a more careful comparison of the characters and habitat of the two species was made. It has also been partly confused with C. fasciolatum, Franch., for when the latter was described (*Journ. de Bot.*, 1894, p. 232), the author remarked that the species occurred in two forms, one having very large flowers and a globose lip (this being the type), the other smaller flowers. The latter belongs to C. Franchetii. Both are included under No. 922 of a collection made by Farges in the district of Tchen-keou-tin, at about 7300 feet elevation. The following are the localities of specimens of C. Franchetii, Rolfe, preserved at Kew: China: Prov. Szechuen, woods of Heou-pin, near Tchen-keou, *Farges*, 134, 509, and 922 in part; Prov. Hupeh; Fang and Hsingshan, *Henry*, 5391 E; Fang, 7000 ft., *Henry*, 6740; Western Hupeh, *Wilson*, 1884. R. A. ROLFE.

## XYLOBIUM BRACTESCENS.

A DISTINCT and striking Xylobium was exhibited by Messrs. Sander & Sons, St. Albans, at the R.H.S. meeting held on November 5th and 6th last. It is believed to have been sent from Peru by M. Forget, and on comparison it proves identical with one which flowered in the garden of the Horticultural Society in October, 1842, when it was described by Lindley under the name of Maxillaria bractescens (*Bot. Reg.*, 1842, Misc., p. 84). It had been sent from Loxa by Hartweg. At that period Xylobium was regarded as a section of Maxillaria, but it differs so markedly in its strongly plicate leaves and racemose inflorescence that its distinctness has long been recognised, and the species has recently been transferred to Xylobium by Kränzlin (*Orchis*, ii. p. 129). It is one of the largest species in the genus, the plant exhibited by Messrs. Sander bearing a scape 2¼ feet high, with a raceme of eighteen flowers. The sepals and petals are rather over an inch long, and greenish yellow in colour, while the lip is obscurely three-lobed, and bears seven to nine strongly undulate fleshy keels, which are reddish brown in colour. The species is remarkable for its long narrow bracts, from 1½ to 2 inches long, in reference to which the name was given.—R. A. R.

## SOME RARITIES AT WESTONBIRT.

AT the present time there is a grand lot of Orchids in flower in Sir George Holford's collection at Westonbirt. The beautiful Vanda cœrulea (some fine examples of which were shown at the R.H.S. Show on November 5th and 6th) present a fine sight with their long spikes of large blue flowers. The display of Cypripediums is wonderful, and the good things among this genus are far too numerous here to note. There are some splendid Cattleyas in flower, notably a quantity of C. Fabia (labiata × Dowiana aurea), which also made a brilliant display in London. Beside the above-mentioned there are some rare species in flower which are worthy of note. The beautiful Oncidium Jonesianum, with its thick pendulous leaves and creamy white flowers blotched with brown on the sepals and petals, is not often met with now. Some well-grown plants of Vanda Watsonii, with three and four spikes on each, make a fine display. A remarkably strong plant of Phalænopsis violacea Clifton's var. with its sweet-scented flowers at once attracts attention, the one disadvantage with this beautiful species is that the inflorescence is always short. Phalænopsis Esmeralda was also in flower. The rare Stauropsis lissochiloides must be mentioned, and the latter is probably one of the oldest plants in the collection. H. L. S.

## LOWIARA INSIGNIS.

A VERY interesting trigeneric hybrid was exhibited by Messrs. Stuart Low & Co., Bush Hill Park, at the R.H.S. meeting held on November 19th, of which a flower has been kindly sent to us. It was obtained from Sophronitis grandiflora ♀ and Brassolælia Helen ♂, and is thus derived from the three genera Brassavola, Lælia, and Sophronitis, and must be dealt with according to the Rule for naming multigeneric hybrids. "Future multigeneric hybrids (containing three or more genera) should be given a purely conventional name consisting of the name of some person eminent as a student or grower of Orchids, terminated by the suffix 'ara.'" We therefore propose to call it Lowiara insignis. The name of Low has occupied an honoured place in the annals of Orchidology for much more than half-a-century. The plant exhibited had a dwarf, sturdy habit, short one-leaved pseudobulbs, and a two-flowered inflorescence. The flowers show much of the Sophronitis character, but the sepals are not widely spreading. The sepals and petals are 2½ inches long, the latter nearly 1¼ inches broad, and the colour dark rosy salmon. The lip is two inches long, and entire, with an undulate crenulate margin, and the colour rose-purple with a yellowish white throat. The column is broad, whitish, and over half an inch long. Lowiara will include hybrids between Brassavola and Sophrolælia, and any future combination of the three genera named. R. A. R.

## DIALÆLIA VEITCHII AND ITS PARENTS.

THE annexed figures represent the interesting hybrid Dialælia Veitchii (fig. 50) with its two parents, Diacrium bicornutum (fig. 51) and Lælia cinnabarina (fig. 52), which a few months ago were in bloom together in the Kew Collection, when the photograph here reproduced was taken by Mr. C. P. Raffill. Dialælia Veitchii was raised by Messrs James Veitch & Sons, Chelsea, and received a Botanical Certificate from the Scientific Committee of the R.H.S. in March, 1905, on the occasion of its flowering for the first time (*O.R.*, xiii. pp. 115, 116). The plant bore an inflorescence

Fig. 50. DIALÆLIA VEITCHII.
Fig. 51. DIACRIUM BICORNUTUM. Fig. 52. LÆLIA CINNABARINA.

about two feet long, with eight or ten flowers. The photograph gives a very graphic record of the characters of the three. It will be seen that the hybrid most resembles the Diacrium parent, both in shape and colour, though there is a marked modification in the structure of the lip. The segments are pale buff when the flower expands, soon changing to whitish, with a lilac tinge, and a few dark spots on the yellow disc of the lip. The Diacrium has pure white flowers, with light purple dots on the lip, while

the Lælia is cinnabar-orange. In habit, too, the hybrid most resembles the Diacrium parent. It will be noticed that the Lælia flower was taken from a different print, but all are from the same negative. White and orange are well known to be difficult to photograph together, and the Lælia flower was taken from a rather lighter print, the outline of the flower being rather clearer. It is interesting to note that we have now four generic combinations with Diacrium, namely, Dialælia, Diacattleya, Diacatlælia, and Epidiacrium. The three latter were raised in the collection of Sir Jeremiah Colman, Bart., Gatton Park, Reigate.

## CALENDAR OF OPERATIONS FOR DECEMBER.

By J. T. BARKER, The West Hill Gardens, Hessle, E. Yorks.

WE have again reached the season of the year when, owing to climatic conditions, things generally are as bad as possible for the cultivation of Orchids. What with fogs, dark and short days, an outside atmosphere heavily charged with moisture, and a very low temperature, all of which are detrimental to the plants, the cultivator has enough to contend with. Daylight is now a scarce commodity, and, therefore, it is necessary that the plants should receive every particle of light possible.

The remarks made last month as regards temperatures, watering, ventilation, and atmospheric moisture still hold good, and no pains should be considered too great to satisfy the wants of the plants at this season. The painstaking thoughtful grower will always be in advance of the slipshod one, who leaves so many things to chance, and I often think that the plants themselves appreciate the cultivator who anticipates their requirements some time beforehand.

Although the past season has been far from an ideal one, owing to the lack of light and sunshine, the plants have made much finer growth than at one time seemed possible. The growths not being so fully matured as after the bright weather of last summer, care must be taken that no serious fluctuations of temperature are allowed, or much harm may accrue.

CATTLEYAS AND THEIR ALLIES.—At this season of the year not many species of these beautiful plants are in flower, but owing to the strides made by the hybridist, it is now possible to have bigeneric Læliocattleyas the whole year round, and the great diversity in shape and colour of their flowers makes them most interesting and for gorgeous colouring unsurpassable. With C. labiata and its varieties over, C. Percivaliana and C. Trianæ will be the next species to flower, and those plants that are already showing flower buds in their sheaths should be placed in the lightest position available, and have water afforded them whenever they become dry. These remarks also apply to the whole of this family, both species and hybrids, that are in a similar condition.

Among Cattleyas that bloom late in the spring may be mentioned C. Warneri. Plants of this species will now be showing signs of activity, both new growths and roots pushing freely. They should be placed in a position well up to the light, and, like the preceding, have water applied to them whenever the compost becomes dry. There are other plants in the Cattleya house which are in various stages of growth, including Lælia crispa, L. purpurata, and L. tenebrosa, which must be watered with discretion.

LÆLIA HARPOPHYLLA, whilst in full growth, will require plentiful supplies of water, but when growth is completed and the flowers are past much less will suffice, and the plants should be induced to rest by placing them under cooler conditions.

SOPHROCATTLEYAS.—Under this head can be placed all those hybrids which have been obtained by intercrossing Sophronitis with species of Cattleya, Lælia, and the hybrid Læliocattleyas. These numerous forms have flowers of most vivid colour, which bloom at different seasons of the year, and a collection of these plants will rarely be without one or more in flower. Those which have recently bloomed and are commencing to grow and pushing new roots may be repotted if they require it, using a compost as for Cattleyas. The majority of them succeed in a light, warm position in the Intermediate house. They must be judiciously watered at all times, as the young growths decay and turn black if the compost is watered indiscriminately. These plants are best grown suspended where no water from the syringe can reach them, as overhead waterings to them is highly injurious, but water at the roots must be given when necessary.

CYPRIPEDIUMS.—Members of this genus belonging to the cooler section are amongst the most important Orchids flowering at this season, and it is very questionable whether greater strides have been made with any class of plants in recent years than with these. There are varieties at the present day of great beauty, and when it is taken into consideration their lasting qualities, and the ease with which they are grown, it is no wonder that they are so popular. To those who reside near our large commercial centres they are indispensable, being capable of withstanding fogs better than most plants. Cypripediums are never inactive at any season of the year, therefore should never be allowed to remain dry at the root for any length of time, or much injury may accrue. During the winter months much less water will suffice, both at the roots and in the atmosphere, than the plants require when in full growth. When in flower they are best grouped by themselves, being more effective than when placed with other Orchids. The plants should be carefully examined from time to time for thrip, which, if allowed to get a foothold, will soon disfigure the foliage, and make the plants quite unsatisfactory. Plants infested with parasites cannot thrive, and the mischief soon spreads.

CALANTHES of the deciduous section, as they pass out of flower, should be placed in their resting quarters, and this should not be an out-of-the-way position, which generally means out of mind as well. They should be placed in a light position on a shelf where no water is likely to come in contact with them. A temperature of about 55° is a most suitable one to rest them in, and no great fluctuations should be allowed, The late-flowering varieties, such as C. Regnieri, Sanderiana, Williamsii, and the hybrids which flower in the New Year should receive every encouragement to develop their flower spikes. When the flowers are over they may be treated in the same manner as the preceding.

MILTONIA VEXILLARIA and its hybrids at the present time need careful treatment, for, although in full growth, they must not be saturated with water, and only have it afforded them when they become dry. In a saturated compost they lose their roots, and rarely if ever fully recover. The plants should occupy a light position in a house where a minimum temperature of 55° is maintained at night, with a slightly higher temperature by day. The plants should be examined occasionally to ascertain if the leaves are folded together, and, if so, they must be carefully liberated, or the growths may become deformed. This generally occurs with weak or delicate plants.

EPIDENDRUM VITELLINUM.—The late autumn-flowering variety of this useful Orchid is a most attractive and useful subject, and grows under precisely the same conditions as the original species. It delights in a well-ventilated structure where a cool intermediate temperature is maintained. Whilst in full growth, up to the time the pseudobulbs are fully developed, it requires copious supplies of water at the roots, but after flowering and during its resting season only sufficient is necessary to keep the pseudo-bulbs plump and the roots and leaves healthy.

TRICHOPILIAS.—The lovely white Trichopilia fragrans is now in bloom, and its delightfully-scented flowers are suitable for any purpose. These plants require slightly more warmth during the winter months than is generally afforded to Odontoglossums, therefore, at this season, they are better accommodated at the coolest end of the cool Intermediate house. When in bloom, and until new growth commences, a moderate supply of water at the roots is all that is necessary. Those species which flower earlier in the year, such as T. suavis, T. coccinea, T. tortilis, T. Back-houseana, and others have now made up their growths, and must have only sufficient water to keep them from shrivelling. Trichopilias are best potted when new growth commences, using a compost similar to that for Odonto-glossums. They delight in a light position, but direct sunshine is most harmful.

VANDAS.—Vanda teres and V. Hookeriana require different treatment from others of this family. The plants have now completed their season's

growth, and the points of the roots are sealed over, which is one of their peculiarities as soon as they have finished their season's growth. These Orchids require a long season of rest, and, owing to their terete leaves, are able to withstand drought. During their period of inactivity water should only be afforded in sufficient quantities to prevent much shrivelling of their peculiar foliage. The temperature of a warm Cattleya house will suit them admirably whilst at rest. V. Amesiana, V. Watsonii, and V. Kimballiana are very distinct and beautiful Vandas which are now in flower or pushing up their flower spikes, and, as winter-blooming subjects, are most useful and beautiful. After the flowers are over the plants should be rested for a brief period, when little water at the root is required. Shrivelling must be prevented, and this, in any Orchid, is very weakening and most harmful.

ZYGOPETALUMS that are now growing freely may have water applied to them whenever they become dry, and the stronger growers, if the pots are full of roots, may have an occasional watering with weak liquid manure. As the plants pass out of bloom they may be repotted, should it be necessary, using a similar compost to that for the green-leaved Cypripediums. The majority of these plants succeed under Intermediate house conditions, but *Z.* Roeblingianum succeeds best under the warm, moist conditions of the East Indian house, whilst those miniatures, Promenæa citrina and P. stapelioides, thrive when suspended from the roof of the Cool house.

ONCIDIUMS.—Among the Oncidiums the dwarf yellow-flowered O. cheirophorum is now in bloom. Like all Oncidiums it must not be over-burdened with compost about the roots, a very thin layer being all that is required. This charming plant succeeds when grown in the Intermediate house, but opens its flowers more freely if removed to a light position in the East Indian house. It resents much water at any season, and should never be watered overhead. The old sweet-scented O. tigrinum is also in bloom, and, when well-grown, is one of the showiest of the whole family. This plant succeeds in the Cool Intermediate house, and after flowering must be induced to rest, when only sufficient water must be given to keep the pseudobulbs plump.

GENERAL REMARKS.—The general cleaning of the houses and their contents comprises the principal work for the present month. No time should be lost in this most essential matter, as, with the New Year, other work is soon pressing upon us, and unless taken in hand as soon as possible some of it does not get done with that thoroughness that it deserves. At this season pests of all description should be exterminated as nearly as possible, and every effort must be made to prevent their subsequent increase. I am firmly convinced that more Orchids suffer from this cause than from any other, and with this I will close my remarks for the year.

## SOCIETIES.

### ROYAL HORTICULTURAL.

THE long-anticipated show of autumn-flowering Orchids was held at the Royal Horticultural Hall, Vincent Square, Westminster, on November 5th and 6th, and resulted in a magnificent display, over half the Hall being required for its accommodation. A pleasing alteration was made in the arrangement, the long tables in the body of the Hall being largely replaced by square tables, diagonally arranged, each allotted to individual exhibitors. The Show on this occasion was entirely competitive, and although a good many classes were blank, no fewer than twenty-four Cups and Medals were awarded by the Judges, while the Orchid Committee gave six First-class Certificates and ten Awards of Merit.

The Judges were arranged in four sections, and their names were as follows: H. G. Alexander, T. Armstrong, W. Bolton, W. Waters Butler, H. J. Chapman, W. Cobb, Sir Jeremiah Colman, de Barri Crawshay, C. H. Curtis, J. Gurney Fowler, F. J. Hanbury, W. H. Hatcher, A. A. McBean, G. F. Moore, J. O'Brien, R. A. Rolfe, J. E. Shill, R. G. Thwaites, Sir Harry J. Veitch, W. H. White, and Gurney Wilson.

In Class 1, for an effectively-arranged group of Orchids, open to all, there were two competitors, Messrs. Charlesworth & Co., Haywards Heath, and Messrs. Sander & Sons, St. Albans, each gaining a Gold Medal.

Messrs. Charlesworth's group, which occupied half the staging on the left-hand side of the Hall and had a frontage of about thirty feet, was brilliant in the extreme. The centre was composed of a large mass of Epidendrum vitellinum, in which were dotted a few fine specimens of the charming Odontoglossum armainvillierense xanthotes, producing a beautiful effect. On either side was a fine series of Cattleya labiata, Bowringiana, Portia, C. Venus var. Princess, and others, Læliocattleya bella alba, L.-c. Neleus var. Sunset (L.-c. Ophir × C. Iris), with orange-yellow sepals and petals, and a crimson lip with some yellow veining on the disc, and many others, Brassocattleya Mariæ, Vanda cœrulea, Odontoglossum grande aureum, O. Aireworth, and other blotched forms, Trichosma suavis, Masdevallia Shuttryana, well-flowered examples of Oncidioda Charlesworthii, a lot of Cypripedium insigne Sanderæ, and hybrids, two good examples of Cycnoches chlorochilon, Oncidium tigrinum, some good O. varicosum Rogersii behind, clusters of O. Forbesii at each end, and others.

Messrs. Sander's group occupied the stage to the left of the entrance, and was of about equal extent, and very effectively arranged in the form of three elevations with two intervening dells, the latter consisting largely of Cypripediums, and among them good examples of insigne Sanderæ, and Harefield Hall var., Leeanum, Richmanii, Maudiæ, Fairrieanum, Niobe,

and others, and very pretty clusters of Pleione lagenaria and præcox in front. The centre and ends consisted largely of brilliant Cattleyas and Læliocattleyas, and included some excellent C. labiata and C. Fabia, C. Fabia His Majesty, with white sepals and petals, good forms of C. Hardyana, C. Ashtonii, and Mrs. Pitt, the beautiful white C. Muelleri (intermedia alba × Peetersiæ), Læliocattleya Decia, Rothschildiæ, and Priam, Brassocattleya Maroniæ, Thorntonii, and Euterpe, Vanda Kimballiana, Oncidium bicallosum, excavatum, micropogon, the rare O. cardiochilum, Maxillaria picta, some good forms of Dendrobium Goldiei, Dearei, and Sanderæ, Xylobium bractescens, some scarlet Odontiodas, Odontoglossum Neptune, O. amabile, and other fine things.

Class 2, for a similar group limited to Amateurs, attracted no entries.

In Class 3, for a group of Orchids arranged in a space not exceeding 150 square feet (Amateurs), there were three competitors, and the first prize, a Gold Medal, was won by G. F. Moore, Esq., Chardwar, Bourton-on-the-Water (gr. Mr. Page), with a splendid group, arranged in undulating fashion, the elevated parts containing a beautiful series of Dendrobium Phalænopsis, showing much variation, and including the pure white var. hololeucum, the blush Miss Louisa Deane, and some richly-coloured forms, with some good Oncidium varicosum behind, and the front containing a lot of Cypripedium Maudiæ and insigne Sanderæ, the charming C. Argo-Fairrieanum, Thalia, Boltonii, Evenor, Nandii, Gaston Bultel, W. Lloyd, The Baron, Actæus Bianca, Baron Schröder, &c., with some brilliant Læliocattleyas, Cattleya labiata, Fabia, Portia, and Mantinii, and a fringe of Lælia pumila in front.

Sir Jeremiah Colman, Bart., Gatton Park, Reigate (gr. Mr. Collier), won the second prize, a Large Silver Cup, his group being well undulated, and including in the centre a lot of Cattleya Portia cœrulea, C. labiata cœrulea, C. Chloris, Parthenia Peetersii, and others, Læliocattleya Rothschildiæ, Ophir, and other good forms, the graceful Brassia longissima, some good Dendrobium Phalænopsis, superbiens, Vanda cœrulea, Læliocattleyas, a prettily spotted Brassocattleya, Odontoglossum Thompsonianum, and others, Pleione maculata, Phaius Ashworthianus, Calanthe Harrisii, Odontioda Bohnhofiæ, some good Cypripedium insigne Sanderæ, Spicerianum, and many other fine things.

H. S. Goodson, Esq., Fairlawn, Putney (gr. Mr. G. E. Day), was third, gaining a Small Silver Cup for a very attractive group, containing many good Cattleyas and Læliocattleyas, conspicuous among them being C. Mrs. Pitt Goodson's var., C. labiata, amabile, and suavior, Læliocattleya Decia, St. Gothard, Goodsonii, Odontoglossum crispum Primrose, grande, Harryanum, eximium, Odontioda Zephyr, Cypripedium triumphans, and many others. The centre consisted of about seven brightly-coloured Sophrocattleyas, with a lot of Cypripedium insigne Sanderæ on each side.

In Class 4, for a group of Orchids arranged in a space not exceeding 150 feet (Nurserymen), Messrs. Stuart Low & Co., Bush Hill Park, gained a Gold Medal for a brilliant group, arranged in a circular mound, with four ornamental vases, elevated on pedestals and filled with Vanda cœrulea, Oncidium varicosum, and Dendrobium Phalænopsis. In the body of the group were many good D. formosum, Cattleya Fabia, white and coloured forms of C. labiata, C. Dowiana aurea, Williamsiæ, Læliocattleya Dominiana, luminosa, Eudora, Oncidium incurvum, and Forbesii, Brassocattleya Veitchii and Maroniæ, Cymbidium erythrostylum, Houlletia Brocklehurstiana, Epidendrum vitellinum, Vanda Kimballiana, Dendrochilum Cobbianum, Odontioda Zephyr, Odontoglossum Thompsonianum, Dendrobium Phalænopsis hololeucum, and many others.

In Class 5, for a group of Orchids arranged in a group not exceeding 100 feet (Amateurs), there were two competitors, the Silver Cup being won by E. R. Ashton, Esq., Broadlands, Tunbridge Wells (gr. Mr. A. Young), the group containing some good Cattleya labiata, Portia, Dowiana aurea, Prince Albert, C. Fabia alba, C. Luegæ Broadlands var., Læliocattleya Jason, Beryl, callistoglossa, Colmaniana, Canhamiana, Beacon, Statteriana, and a richly-coloured hybrid from L.-c. luminosa × C. Dowiana aurea, Brassocattleya Thorntonii and Maronii, Lælia pumila, Sophrocattleya Chamberlainii, Dendrobium formosum, Oncidium Forbesii, Epidendrum vitellinum, Odontoglossum Williamsianum, Jasper, grande, and others.

F. Ducane Godman, Esq., South Lodge, Horsham (gr. Mr. G. Giles), gained the second prize, a Silver Flora Medal, for a very pretty group, containing eleven beautiful specimens of Oncidium cheirophorum in front, and behind them two plants of O. ornithorrhynchum and four of the variety album, O. varicosum, examples of Vanda cœrulea, Epidendrum vitellinum, Læliocattleya Nysa, Endymion, Godmanii, bletchleyensis, Odontoglossum grande, Pleione lagenaria, Cattleya Fabia, Mantinii, Dowiana aurea, Cypripedium Arthurianum with ten flowers, some fine C. insigne Sanderæ, C. i. Aberdeen, Baron Schröder, Germaine Opoix, and others.

Class 6 was a corresponding class for Nurserymen, in which there was a keen competition, no fewer than seven prizes being awarded.

Messrs. J. & A. A. McBean, Cooksbridge, took premier honours, gaining a Silver Cup for a charming group, in which several plants of individual kinds were mostly clustered together, producing a very fine effect. We noted two well-bloomed Vanda Sanderiana, some good Cattleya Dowiana aurea, labiata, Fabia, Luegæ, Fabiata, Bowringiana, Dendrobium Dearei and Sanderæ, Odontioda Charlesworthii and St. Fuscien, some well-grown Odontoglossum crispum, Epidendrum vitellinum, Cymbidium Doris, and an interesting hybrid between C. elegans and giganteum, with a very fine lot of Cypripedium insigne Sanderæ in the foreground, and others.

Messrs. James Cypher & Sons, Cheltenham, were second, gaining a Silver-gilt Flora Medal for a very fine group, containing some well-flowered Dendrobium Phalænopsis and formosum. Epidendrum vitellinum, Cattleya Fabia, labiata, Hardyana, a fine specimen of C. Bowringiana lilacina, some good Læliocattleya luminosa and others, Oncidium Forbesii, flexuosum, cucullatum, Kramerianum, varicosum, ornithorrhynchum and var. album, a nice lot of Masdevallia tovarensis, Phaius Ashworthianus, Miltonia candida, Bulbophyllum crassipes, Angræcum distichum, Restrepia maculata, Lælia tenebrosa and pumila, Odontoglossum Pescatorei and other Odontoglossums, Dendrobium Cobbianum, Cypripediums, and other good things.

Mr. E. V. Low, Vale Bridge, Haywards Heath, was third, gaining a Silver Flora Medal for a fine group, containing the chaste Cattleya labiata alba and La Vierge, with five others having white sepals and petals, including the prettily veined R. I. Measures' var., G. G. Whitelegge, Daphne, Le President, and W. R. Lee, the latter with eight flowers, C. Dusseldorfii Undine, Læliocattleya Decia alba, L.-c. epicasta Vale Bridge var., Cymbidium erythrostylum, Odontoglossum grande aureum Wigan's var., a fine lot of Cypripedium insigne Sanderæ, Germaine Opoix, Thalia West Point var., Sir Redvers Buller, and others.

Mr. H. Dixon, Spencer Park Nursery, Wandsworth Common, received a Silver Banksian Medal for an interesting group, including some good Oncidium varicosum, Epidendrum vitellinum, Vanda cœrulea. Cattleya Fabia and var. alba, C. F. W. Wigan × Iris, a pretty bronzy yellow hybrid, with a red-purple, three-lobed lip, veined with yellow on the disc, some good Odontoglossums, Cypripedium insigne Sanderæ, Arthurianum, &c.

Mr. S. W. Flory, Orchid Nursery, Twickenham, received a Silver Banksian Medal for a very pretty group, including some good Odontoglossum crispum, Lambeauianum, and Williamsianum, Oncidium incurvum and Forbesii, Cymbidium Tracyanum, Odontioda Charlesworthii, Miltonia Warscewiczii, Cypripedium Fairrieanum, fulshawense, and others.

Messrs. James Veitch & Sons, Chelsea, received a Silver Banksian Medal for a select group, including a nice lot of the pure white Calanthe Harrisii, a few Epidendrum vitellinum, Brassocattleya Ilene, Phalænopsis Esmeralda, Læliocattleya Queen Alexandra, L.-c. Bola, L.-c. Lamorna (L.-c. Dominiana × C. Hardyana), a richly-coloured hybrid, Brassocattleya Hylas (C. Aclandiæ × B.-l. Veitchii), a few good Odontoglossums, Cattleyas, and Cypripediums.

Messrs. W. B. Hartland & Sons, Ardcairn, Cork, received a Bronze Banksian Medal for a small group, including a well-flowered plant of Lælia Perrinii, the rare Cymbidium chloranthum, Cattleya Fabia, Portia and Bowringiana, Odontoglossums, a pretty little batch of Cypripedium triumphans, C. insigne Sanderæ, and others.

In Class 7, for a group of Cattleya, Læliocattleya, and Brassavola, species, hybrids, and varieties (open), the only group, staged by Lt.-Col. Sir George L. Holford, K.C.V.O., Westonbirt (gr. Mr. H. G. Alexander), was remarkable in every respect, and to it both a Gold Medal and a Silver-gilt Lindley Medal were awarded. It occupied an area of about 300 square feet, and was brilliant from end to end, both as to quality and culture. It included fifty plants of Cattleya Fabia with over 260 flowers. These had been obtained from two different crosses, one lot being remarkable for its brilliant colours, the other being rather lighter and with more yellow in the throat. Other beautiful things were two plants of C. fulvescens Westonbirt var., showing a great improvement on the type, which was also included, some fine C. labiata, with the beautiful white varieties alba, Gilmouriæ, G. G. Whitelegge, Mrs. E. Ashworth, and Madame Louis de Hemptinne, C. Dusseldorfii Undine, with four spikes and sixteen flowers, C. Bowringiana with five fine spikes, C. Portia gigantea, C. Dowiana Rosita, having the sepals and petals almost suffused with rich purple, C. Waldemar (Whitei × Dowiana aurea), a richly-coloured hybrid, some fine C. Hardyana, Draco, Brenda and Prince Olaf, Brassocattleya Euterpe, Maroniæ, Pluto, and Sirius, Læliocattleya Neleus (C. Iris × L.-c. Ophir), Golden Beauty, Cappei var. Charlesworthii, Golden Fleece, Amber, a beautiful yellow, Berthe Fournier, and many others. The group contained about 200 plants, and was most artistically arranged.

Classes 8 and 9, for Nurserymen and Amateurs, were identical with the preceding, but did not produce an exhibit.

Class 10, for a group of Cypripediums, species, hybrids, and varieties (Amateurs), contained one magnificent group, of about 130 square feet, from Lt.-Col. Sir G. L. Holford, Westonbirt (gr. Mr. H. G. Alexander), to which the Davidson Silver Cup was awarded. The plants were arranged on a diamond-shaped stand, and were remarkable for quality and culture, and among those noted were C. Boltonii with four flowers, some good C. Actæus and the beautiful white and yellow var. Bianca, C. Thalia, Leeanum Corona, Dante magnificum, Pluto, Sultan, Rossetti, Lucifer, Niobe Westonbirt var., Maudiæ, Priam, Germaine Opoix, Arthurianum, pulchellum, and many other choice things.

Class 11 was a similar group for Nurserymen, and here the Silver Cup was won by Messrs. James Cypher & Sons, Cheltenham. and a Silver Banksian Medal by Mr. G. W. Miller, Clarkson Nurseries, Wisbech. Messrs. Cypher's group contained a very fine lot of C. insigne Sanderæ, Harefield Hall var., and others, in fine examples, with the hybrids fulshawense, Sir Redvers Buller, Felicity, Minos Veitchii, Niobe superbum, Leeanum Prospero, Maudiæ, Leander, Kitty, and many others. Mr. Miller's group included some good C. insigne Sanderæ, Maudiæ, Spicer-

ianum, triumphans, Massaianum, and Clarksoniæ (Actæus × insigne Laura Kimball), most resembling the latter.

Class 12 was for a group of not more than fifty plants of Vanda cœrulea, and contained one remarkable exhibit from Lieut.-Col. Sir G. L. Holford (gr. Mr. H. G. Alexander), to which a Gold Medal and a Silver-gilt Lindley Medal were awarded. There were about forty-five magnificent plants with from one to three large spikes, one bearing a branched spike and no fewer than 45 flowers, and another two spikes and 38 flowers. They were arranged with a fine lot of Oncidium varicosum, which showed up the blue of the Vandas to great advantage.

Classes 13 and 14, for twelve plants of Vanda cœrulea (Amateurs and Nurserymen), 15 and 16 for six plants (ditto). 17 for a group of Odontoglossums and Odontiodas, species, hybrids, and varieties (open), 18, the same (Amateurs), 19 and 20, for a group of Calanthes, species, hybrids, and varieties (Amateurs and Nurserymen), and 21, for a specimen Orchid (Amateurs), were all blank.

In Class 22, three specimen Orchids (Amateurs), Mrs. Cookson, Oakwood, Wylam (gr. Mr. H. J. Chapman), was awarded a Silver-gilt Banksian Medal for good plants of the blush-white Calanthe Cooksoniæ, the dark ruby crimson C. Angela, with two spikes, and the handsome Odontioda Bradshawiæ Cookson's var. with twelve large flowers, the latter also bearing a capsule.

Class 23, for six specimen Orchids (Amateurs), was blank, and in 24, for a specimen Orchid (Nurserymen), a Silver Banksian Medal was awarded to Mr. S. Flory, Twickenham, for a large specimen of Cymbidium Tracyanum, bearing four fine racemes of twelve and thirteen flowers each.

Classes 25 and 26, for three and six specimen Orchids (Nurserymen), were blank, and in class 27, for a collection of Botanical Interest, those with coloured or variegated foliage not necessarily in flower (Amateurs), the only exhibit was by Sir Jeremiah Colman, Bart., Gatton Park (gr. Mr. Collier), to which a Silver Cup was awarded. It contained a beautiful specimen of Ornithidium Sophronitis, covered with its pretty scarlet flowers, Saccolabium acutifolium, with six spikes, Liparis longipes, covered with flowers, Restrepia striata, the remarkable Bulbophyllum lemniscatoides, B. Godseffianum, crassipes, and mirum, Masdevallia Courtauldiana, Doris, inflata, and Vespertilio, melanoxantha, pachyura, Mooreana, macrura, and ventricularia longicaudata, Pleurothallis Dianæ, Dendrochilum Cobbianum, Stenoglottis longifolia, Epidendrum nocturnum, Scaphosepalum ochthodes and pulvinare, Collabium nebulosum, Sarcopodium Cœlogyne, Angræcum distichum, Cœlogyne fulginosa, and other interesting things. Class 28, a similar class for Nurserymen was blank.

There were four classes for Northern growers, three of which contained

no exhibit, 30, for a group of Cypripediums, species, hybrids, and varieties (open), 31, the same (Amateurs), and 32, a specimen Orchid (open).

In Class 29, for a group of Orchids (open), Messrs. Mansell & Hatcher, Rawdon, E. Yorks, won the Large Silver Cup with a very brilliant group, which occupied about half the long stage at the side of the Hall. Two elevated banks were made up of a fine lot of Cattleya Fabia, Hardyana, Mantinii, Armstrongiæ, and Mrs. Pitt, a number of fine Læliocattleyas, and others, while the sunk portions contained many good Cypripediums, Cattleya labiata, including some white forms, C. Dowiana aurea, &c. We noted some good Odontoglossum amabile, Lambeauianum, Pescatorei, crispum, and others, Odontioda Devossiana, Bohnhofiæ, and Cupid, Cirrhopetalum mundulum and appendiculatum, Brassocattleya Veitchii, Læliocattleya luminosa, a well-flowered Dendrochilum Cobbianum, some beautiful Oncidium varicosum, a fine Cypripedium insigne Harefield Hall var., and many others.

The members of the Orchid Committee present on this date were: J. Gurney Fowler, Esq. (in the Chair), and Messrs. J. O'Brien (hon. sec.), W. Bolton, W. Waters Butler, W. Cobb, R. G. Thwaites, de B. Crawshay, G. F. Moore, J. S. Moss, R. Brooman White, H. J. Chapman. W. H. White, A. Dye, J. E. Shill, W. H. Hatcher, J. Cypher, J. Charlesworth, C. H. Curtis, Gurney Wilson, F. M. Ogilvie, F. Sander, A. McBean, T. Armstrong, F. J. Hanbury, R. A. Rolfe, Stuart Low, Sir Harry J. Veitch, and Sir Jeremiah Colman. The awards made were as follows:

### FIRST-CLASS CERTIFICATES.

CATTLEYA PEETERSII WESTONBIRT VAR. (labiata G. G. Whitelegge × Hardyana alba).—A most beautiful variety, bearing six flowers, with clear white sepals and petals, and the lip rich purple-crimson, with much deep yellow veining at the base. Exhibited by Lt.-Col. Sir George L. Holford.

CATTLEYA RHODA VAR. THE JEWEL (Iris × Hardyana).—A very beautiful form, having clear deep yellow sepals and petals, and a ruby-red lip, with a pair of large deep yellow eyes in the throat of the lip and some yellow veining on the disc. Exhibited by Messrs. Charlesworth & Co.

LÆLIOCATTLEYA ORION VAR. OTHELLO (L.-c. Haroldiana × C. Dowiana aurea).—A very richly-coloured variety, with claret-purple sepals and petals, and the lip maroon-purple with some lighter markings. Exhibited by Messrs. Charlesworth & Co.

ODONTIODA BRADSHAWIÆ VAR. GATTONENSIS (C. Nœtzliana × O. crispum).—A very fine form, bearing a branched panicle of large deep scarlet-red flowers. Exhibited by Sir Jeremiah Colman, Bart.

ODONTOGLOSSUM AURORA (Lambeauianum × Rossii rubescens).—A very handsome hybrid, bearing an inflorescence of five well-shaped flowers, having the sepals and petals barred with chocolate brown and margined

with rose on a pale ground, and the lip very broad, and rose-purple in colour, with a white basal area round the bright yellow crest. Exhibited by Messrs. James Veitch & Sons.

VANDA CŒRULEA VAR. LADY HOLFORD.—A remarkably fine form, bearing two inflorescences, with an aggregate of thirty-eight exceptionally large flowers, beautifully reticulated with bright blue on a light ground. Exhibited by Lt.-Col. Sir G. L. Holford.

## AWARDS OF MERIT.

BRASSOCATTLEYA HYEÆ ASHTON'S VAR. (C. Harrisoniana × B. Digbyana).—A beautiful variety, with light rose-pink sepals and petals, and a broad, whitish fringed lip, with some pale yellow in the throat. Exhibited by E. R. Ashton, Esq., Broadlands, Tunbridge Wells.

CATTLEYA FABIA VAR. GLORIOSA (labiata × Dowiana aurea).—A remarkably large and richly-coloured variety, having a very broad purple-crimson lip, with some yellow veining in the throat. Exhibited by Lt.-Col. Sir George L. Holford.

CATTLEYA FABIA VAR. SUNSET.—A very large deep rose-coloured form, remarkable for the amount of buff yellow on the disc of the lip. Exhibited by Lt.-Col. Sir G. L. Holford.

CATTLEYA HARDYANA LA PERLE.—A very charming form, having white sepals and petals and a rich purple-crimson lip, with much deep yellow veining on the disc. Exhibited by Lt.-Col. Sir G. L. Holford.

CATTLEYA OBERON (Fabia × Hardyana).—A large and handsome hybrid, having prettily mottled petals, and a broad crimson lip, with some yellow veining in the throat. Exhibited by E. R. Ashton, Esq.

CATTLEYA VENUS VAR. PRINCESS (Iris × Dowiana aurea).—A very pretty variety, having yellow sepals and petals, and a ruby-coloured lip, with some yellow veining in the throat. Exhibited by Messrs. Charlesworth & Co.

CYPRIPEDIUM GLEBELANDS (Lathamianum × insigne Chantinii).—A large and handsome hybrid, having a broad round dorsal sepal, the upper half of which is white and the lower green, well blotched with brown. Exhibited by J. Gurney Fowler, Esq.

CYPRIPEDIUM MURIEL (Euryades × Cynthia).—A large and handsome hybrid, most like the former in general character, and having a broad white dorsal sepal, with large chocolate purple blotches. Exhibited by Lt.-Col. Sir G. L. Holford.

LÆLIOCATTLEYA WALTER GOTT (C. bicolor × L.-c. bletchleyensis).—A large and striking form, having rosy mauve sepals and petals, and a broad purple lip, somewhat resembling Cattleya Iris in shape. Exhibited by Messrs. Sander & Sons.

ODONTOGLOSSUM EXIMIUM MCBEAN'S VAR. (armainvillierense × crispum).

—A very beautiful form, of excellent shape and substance, and having white flowers, copiously and regularly blotched with purple. Exhibited by Messrs. J. & A. A. McBean.

---

### MANCHESTER AND NORTH OF ENGLAND ORCHID.

At the meeting held at the Coal Exchange, Manchester, on November 7th, the members of Committee present were: Rev. J. Crombleholme (in the Chair), Messrs. R. Ashworth, J. Cypher, J. Evans, A. Hanmer, Dr. Hartley, W. Holmes, A. J. Keeling, J. Lupton, D. McLeod, H. Thorp, Z. A. Ward, A. Warburton, and H. Arthur (Secretary).

A. Warburton, Esq., Haslingden (gr. Mr. Dalgleish), was awarded a Silver-gilt Medal for a splendid group, including Cattleyas labiata alba, Mrs. A. Warburton, King of Greece, R. I. Measures, Cooksoniæ, Amesiana and Læliocattleya Decia alba, Cypripedium insigne Harefield Hall, Bohnhofianum, Sadleri, Dorothy, Lucianii, Chantinii Lindenii, Cobbianum, Actæus Warburton's var., cucullatum, Marjorie, Minos Youngii, Milo, and others, Odontoglossum Lambeauianum, albosanguineum, amabile, and Humeanum.

Z. A. Ward, Esq., Northenden (gr. Mr. Weatherby), staged a fine group, to which a Large Silver Medal was awarded. It contained Cypripedium insigne Berryanum, Princess of Wales, King Edward VII., Sanderæ, Leeanum giganteum, Corona, Clinkaberryanum, and others, with Odontoglossums in variety.

Col. J. Rutherford, M.P., Blackburn (gr. Mr. Lupton), was awarded a Silver Medal for a group, containing Cattleyas in variety, Læliocattleya Admiral Dewey, callistoglossa, Cattleya Mantinii nobilior, Cypripedium insigne and Leeanum, with a few Odontoglossums.

Rev. J. Crombleholme, Clayton-le-Moors (gr. Mr. Marshall), staged a group of Cypripediums, to which a Silver Medal was awarded, including insigne Harefield Hall, Sanderæ, Balliæ, Ernestii, fulshawense, Priam, Herdmanii, villosum, Arthurianum, Niobe, Leeanum Gratrixiæ, &c.

J. McCartney, Esq., Bolton (gr. Mr. Holmes), was also awarded a Silver Medal for a group of Cattleyas and hybrids, including C. Mantinii nobilior, Fabia Prince John, Læliocattleya Lady Rothschild, callistoglossa var. Princess of Wales, Chloe, and Brassocattleya Pocahontas.

O. O. Wrigley, Esq., Bury (gr. Mr. Rogers), staged an excellent group, to which a Special Vote of Thanks was granted. It contained Cypripedium Farrieanum (about thirty well-flowered plants), Maudiæ magnificum, Arthurianum Sanderi and pulchellum, Actæus langleyense, Delhi, Lord Wolmer, nitens Wrigleyanum, Troilus Bridge Hall var., Priam, Gaston Bultel, Sir Redvers Buller, Mrs. F. Sander, Cattleya labiata and Fabia, Odontoglossum grande and the var. aureum.

R. Ashworth, Esq., Newchurch (gr. Mr. Gilden), sent Odontoglossum grande aureum var. Ashworthiæ.

Messrs. Sander & Sons, St. Albans, were awarded a Large Silver Medal for a choice group, including Cattleya Fabia (two vars.), Ashtonii, Læliocattleya Fred Gott and Decia, Brassocattleya Euterpe, Cypripedium insigne Harefield Hall, Ellerdale, Beeckmanii × Leeanum Corona, Odontoglossum percultum, amabile, eximium, ardentissimum, and others.

Messrs. J. Cypher & Sons, Cheltenham were awarded a Silver Medal for a nice group, including Cattleya Hardyana and Fabia, Cypripedium fulshawense, Moonbeam, Thalia Mrs. F. Wellesley, Leeanum Corona, insigne Harefield Hall and Sanderæ, Madame Jules Hye, Sir Redvers Buller, Priam, Actæus, Miss Caver, and others.

Messrs. A. J. Keeling & Sons, Bradford, were awarded a Silver Medal for a group, including Cattleyas of sorts, Brassocattleya Maronii, with Cypripedium Rossetti, Maudiæ magnificum, Sanderæ Keeling's var., Standard, Little Gem, and syhlletense magnificum.

Mr. W. Shackleton, Great Horton, Bradford, staged Cattleya labiata hortoniensis, Cypripedium insigne Berryanum, fastuosum, Harefield Hall and Sanderæ, Actæus Highfield var., Leeanum highfieldiense and Clinkaberryanum, Hitchinsiæ magnificum and Fairrieanum.

Mr. J. Birchenall, Alderley Edge, staged Kefersteinia graminea var. aurea, Cypripedium Marie, and a hybrid.

### FIRST-CLASS CERTIFICATES.

Cattleya Iris var. Ashworthiæ, a large round flower of good colour and a dark lip. From R. Ashworth, Esq.

Cypripedium Jasper (Alcibiades × Hitchinsiæ), a well-formed flower, with good white margin to the dorsal sepal. From Z. A. Ward, Esq.

Cypripedium Hassallii Hindley's var. (Charlesworthii × bingleyense), a good dark flower, and of good substance. From F. A. Hindley, Esq.

### AWARD OF MERIT.

Odontoglossum crispum var. Arther, a seedling of unknown parentage. From Z. A. Ward, Esq.

## ORCHID NOTES AND NEWS.

Two meetings of the Royal Horticultural Society will be held at the Royal Horticultural Hall, Vincent Square, Westminster, on December 3rd and 17th. On the latter date, however, there will be no show, but only a meeting of the Committees, when plants entered for Certificates only will be received. The Orchid Committee will meet at the usual hour, 12 o'clock noon. The first meeting in the New Year is fixed for January 7th.

The Manchester and North of England Orchid Society will hold

meetings at the Coal Exchange, Manchester, on December 5th and 19th. The Committee meets at noon, and the exhibits are open to the inspection of members and the public from 1 to 4 p.m. The first meeting in the New Year is fixed for January 2nd.

Under the title, Noted Orchid Growers, the *Journal of Horticulture* in its issue of November 7th last gives portraits of Messrs. T. W. Briscoe, J. M. Black, H. J. Chapman, J. Collier, J. Davis, G. E. Day, W. Page, and F. W. Thurgood, with an interesting account of their careers. A week later, under the heading Notable Orchidists, Mr. J. Gurney Wilson, F.L.S., and Mr. R. A. Rolfe, A.L.S., are also included.

The first part of the Orchids of the *Flora Capensis* by Mr. R. A. Rolfe has appeared, dealing with the first thirty-two genera. There are forty-six in all. A detailed notice is deferred.

An interesting report by the Directors of the Royal International Horticultural Exhibition, giving particulars of the disposal of the surplus funds, reached us just too late for inclusion in our present issue.

## ORCHID PORTRAITS.

CATTLEYA FABIA.—*Journ. Hort.*, 1912, ii. pp. 462, 463, with fig.

CATTLEYA OBERON.—*Gard. Mag.*, 1912, p. 880, with fig.

CATTLEYA PEETERSII WESTONBIRT VAR.—*Gard. Mag.*, 1912, pp. 853, 864, with fig.; *Journ. Hort.*, 1912, ii. p. 465, with fig.

CYMBIDIUM DORIS.—*Gard. Mag.*, 1912, pp. 826, 838, with fig.

ERIOPSIS HELENÆ, Kränzl.—*Bot. Mag.*, t. 8462.

LÆLIOCATTLEYA ORION VAR. OTHELLO.—*Gard. Mag.*, 1912, pp. 851, 863, with fig.

LÆLIOCATTLEYA SALOME VAR. PAVLOVA.—*Journ. Hort.*, 1912, ii. p. 439, with fig.

MILTONIA VEXILLARIA MEMORIA BARON SCHRÖDER.—*Gard. Chron.*, 1912, ii. p. 352, with coloured plate.

ODONTOGLOSSUM CRISPUM FRANZ MASEREEL.—*Journ. Hort.*, 1912, ii. p. 440, with fig.

VANDA CŒRULEA LADY HOLFORD.—*Gard. Chron.*, 1912, ii. pp. 356, 357, fig. 155.

## ANSWERS TO CORRESPONDENTS.

[*Orchids are named and questions answered here as far as possible. Correspondents are requested to give the native country or parentage of plants sent. An* ADDRESSED *postcard must be sent if a reply by post is desired (abroad, reply postcards should be used). Subjects of special interest will be dealt with in the body of the work.*]

F. J. Le M.—**Camaridium ochroleucum, Lindl.**

E.C., W.W.B., and several others.—Many thanks. Unavoidably deferred until next month.

**Photographs received, with thanks.—H.G.A., E.M., A.G.**

# INDEX.


ACAMPE, 206.
Acriopsis Ridleyi, 160.
Acrochæne, 262.
Adaptations, 35, 264.
Adioda St. Fuscien, 170.
Æonia, 206.
Aëranthes, 205.
Aërides, 205 ; japonicum, 174 ; pallidum, 182.
Agrostophyllum pauciflorum, 300.
Albinism in Orchids, 131.
Amateur's Collection, 14, 38, 69, 109, 134, 174, 196, 238, 270, 296. 332, 356.
Angræcum, 206 ; caudatum, 297 ; Dubuyssonii, 343 ; funale, 206 ; Kotschyi, 23 ; O'Brienianum, 281, 284 ; sesquipedale, 71, 121, 298 (spur of), 298.
Angræcums, 263, 326.
Anguloa Cliftonii, 246, 293 ; Clowesii, 105 ; C. eburnea, 106 ; grandiflora, 172; Ruckeri, 106 ; Turneri, 106 ; uniflora, 106 ; virginalis, 106.
Auguloas, 147.
Answers to Correspondents, 32, 64, 96, 128, 160, 192, 224, 256, 288, 320, 352, 376.
Ants and epiphytes, 299.
Apostasieæ, 225.
Arachnanthe, 205 ; Lowii, 205, 262, (fertilisation of), 192.
Arethuseæ, 260.
Arpophyllum giganteum, 77.

BLETIA florida, 76 ; purpurea, 76 ; Shepherdii, 76.
Bonatea, 228.
Brassavola Digbyana, 103.
Brassia Keiliana, 203.
Brassocatlælia, 97 ; Astarte, 340 ; beardwoodensis, 220 ; Cooksonii enfieldensis, 151 ; Joan, 182 ; Leeana, 126 ; Triune, 184 ; Wotan, 62.
Brassocattleya, 97 ; Corona, 218 ; Digbyano-Mossiæ Holford's var., 23 ; Faith, 250 ; heatonensis var. virginale, 349 ; Hyeæ Ashton's var., 373 ; Hylas, 369 ; Ilene, 278 ; I. rosea, 310, 311 ; King, 193 ; Leucothoe, 24 ; Maggie, 187, 189 ; Marion, 250 ; Morna, 317 ; Olympia, 341 : Pittiana, 338 ; Rutherfordii, 95 ; Thetis, 253, 254, 319 ; Veitchii Dell var., 344 ; V. Holford's var., 112 ; V. Luptonii, 220 ; Wellesleyæ, 87.
Brassolælia Leeana, 126.
Brasso-Lælio-Cattleya, 97.
Broughtonia domingensis, 77 ; sanguinea, 76, 77.
Bulbophyllum calamarium, 314; Gentilii, 292, 314, 352 ; nigrescens, 293 ; phæopogon, 314 ; polyblepharon, 203 ; trifarium, 294.
Bulbophyllum exuding nectar, 314 ; section Intervallata, 264.
Bulleya yunnanensis, 223.
Bull, Messrs. William & Sons' Orchid Exhibition, 176.

CADETIA sp., 203.
Calanthe, 262 ; Angela, 370 ; Baron Schröder albiflora, 118 ; Dominyi, 41 ; vestita rubro-oculata gigantea, 26 ; William Murray, 87.
Calanthes, 82, 302, 364.
Calendar of Operations, 18, 50, 81, 113, 145, 178, 210, 242, 274, 301, 325, 362.
Campylocentrum, 206, 263.
Catasetum, 35, 262 ; Darwinianum, 316 ; fimbriatum, 295 ; macrocarpum, 47, 292 ; Randii, 287 ; splendens, 292 ; s. imperiale, 340 ; tabulare rhinophorum, 323.
Catasetums, 114, 211, 292.
Cattleya Anneliæ, 31 ; Apex, 347 ; armainvillierensis alba, 25 ; Artemis, 249 ; Basil, 342 ; Blackii, 86 ; Brenda, 118 ; Butleri, 78 ; Cappei, 156 ; Comet, Princess Mary, 344 ; Corona, 342 ; Dido, 343 ; Dircemagnifica, 167, 193 ; D. Westonbirt var., 152 ; Dowiana alba, 342 ; D. Rosita, 370 ; Dupreana Dell var., 249 ; Edwardii, 254 ; Ena Marlfield var., 349 ; Euphrasia Westonbirt var., 281 ; Fabia, 338, 370 ; F. alba (× Warscewiczii Frau Melanie Beyrodt), 321, 341, 352 ; F. gloriosa, 373 ; F. Rex, 340 ; F. Sunset, 373 ; Fabiata, 344 ; Fauna, 343 ; Felicity, 248 ; Freya, 340 ; fulvescens Westonbirt var., 370 ; F. W. Wigan (× Iris), 369 ; Gaskelliana (× Lælia Iona), 96 ; Gertrude Pitt, 306 ; gigas Mandaiana, 167, 218 ; Gildenii, 58 ; Hardyana, 22 ; H. alba, 357 ; H. Herbert Goodson, 341 ; H. La Perle, 373 ; Harrisiana, 321, 352 ; Harrisoniana, 111 ; Hassallii, 343 : Holdeniæ, 28, 29 ; Iris var. Corisanda, 29 ; Isis, 340 ; labiata, 257 ; (white vars.), 369, 370 ; l. G. G. Whitelegge, 357 ; l. Opal, 344 ; l. Virgo purissima, 28 ; Lawrenceana, 114 ; Lord Rothschild albescens, 311 ; Maggie Raphael alba Orchidhurst var., 57 ; M. R. var. pulcherrima, 92 : M. R. Goodson's var., 344 ; Maronii (× Dowiana), 25 ; Marstersoniæ alba, 31 ; Mendelii (× C. Mossiæ), 198. (× L. Jongheana), 216 ; M. Queen Mary, 193 ; M. Thule, 183; Mercutio, 342 ; Mossiæ, 175, (fertilisation of), 103 ; M. Madame Jules Hye, 194 ; M. Wageneri, 217 ; Mrs. Frank Hurndel, 59 ; Mrs. Pitt Charlesworth's var., 341 ; Muelleri, 367 ; Muriel, 373 ; Nestor, 309 ; nobilis var. nobilius, 310 ; Norma, 199 ; Oberon, 373 ; Osiris, 187 ; Peetersii Westonbirt var., 55, 357, 372 ; Princess Mary, 28, 29 ; Purity, 95 ; Raphaeliæ alba 117 ; Rhoda Jewel, 372 ; Rothschildiana, 279 ; Schofieldiana (× C. Myra Peeters), 23 ; Schrœderæ (× Mendelii), 171 (× L.-c. warnhamensis), 176 ; S. Glebelands var., 185 ; S. Kaiser, 153 ; S. Louisa, 119 ; Seligeræ, 199 ; Skinneri alba, 168 ; Source d'Or, 252 ; Sylvia, 343 ; Tacitus, 279 ; Thurgoodiana Apollo, 250 ; Trianæ (× Aclandiæ), 25 ; T. alba Edelweiss, 119 ; T. Emprees of India, 153 ; T. F. MacBean, 153 ; Venus Golden Glory, 278 ; Princess, 373 ; Vesuvius, 98 ; Waldemar, 370 ; Warscewiczii, 35 ; (culture of), 35 ; W. Lowii, 249 ; W. alba Firmin Lambeau, 251.
Cattleya abnormal, 287.
Cattleyas, 83, 179, 304, 327, 362 ; autumn-flowering, 211 ; compost for, 21 ; hybrid, 327.

Centropetalum, 205.
Cercospora Odontoglossi, 268, 291.
Chiloschista, 263.
Chondropetalum Fletcheri, 37, 73.
Chondrorhyncha Lendyana, 166.
Cirrhopetalum miniatum, 310, 320.
Cleisostoma, 206.
Cochlioda Floryi, 249; Nœtzliana, 103. (× O. Rolfeæ). 25.
Cochlioda hybrids, 99.
Cochliodas and their hybrids, 244.
Cœlogyne aspersa alba, 217; burfordiensis, 203; cristata, 83; pandurata, 216; venusta, 287.
Collabium Wrayi, 237.
Column, foot of, 260. Comparettia, 262.
Cordula, 2, 3, 67; Appletoniana, 2; Argus, 2; barbata, 2; bellatula, 2; Boxallii, 2; Bulleniana. 2; callosa, 2; Chamberlainiana, 2; Charlesworthii, 2; ciliolaris, 2; concolor, 2; Curtisii, 2; Dayana, 2; Druryi, 2; exul, 2; Fairrieana, 2; Frankeana, 2; glanduligera, 2; glaucophylla, 2; Godefroyæ, 2; Gratrixiana, 2; Haynaldiana, 2; hirsutissima, 2; Hookeræ, 2; insignis, 2; javanica, 2; Kimballiana, 2; Lawrenceana, 2; Littleana, 2; Lowiana. 2; Mastersiana, 2; nigrita, 2; nivea. 2; Parishii, 2; Petri, 2; philippinensis, 2; præstans, 2; purpurata, 2; Rothschildiana, 2; Sanderiana, 2; Shipwayæ, 2; siamensis, 2; Spiceriana, 2; Stonei, 2; superbiens, 2; tonsa, 2; venusta, 2; Victoria-Mariæ, 2; viilosa, 2; violascens, 2; virens, 2.
Coryanthes, 262. Corycieæ, 228.
Cottonia, 205; macrostachya, 205.
Cryptophoranthus Dayanus, 316.
Cryptocentrum, 262. Cryptopus, 206.
Cultural Commendations, 290.
Cycnoches, 211; chlorochilon, 329, 330, (female flower), 316, 329, (seeds of). 264, 330; densiflorum, 330, 331; Egertonianum, 330; Loddigesii, 330; maculatum, 310, 330, (male and female flowers), 315; ventricosum, 330; sp., 292.
Cycnoches, revision of the genus, 330; section of, 330.
Cymbidium alatum, 237; chloranthum, 369; Doris, 344; elegans (× giganteum), 368; grandiflorum, 121; I'Ansonii, 167; insigne, 79, Lowianum, 110; Mandaianum, 167; Parishii Sanderæ, 168; P. S. Rutherford's var. 157; Pauwelsii, 158, 187; P. Dell var. 154; rosefieldiense, 57; Schlegelii, 86; Tracyanum, 371; Woodhamsianum Fowler's var. 186.
Cymbidiums, 147.
Cynorchis Morlandii, 294.
Cypripedieæ, 3, 225, 226. Cypripedilum, 1, 6, 7.
Cypripedium Actæus, 31; A. ashlandense nos. 1 and 2, 90; A. Durbar, 54; A. Olive, 31; A. Undine, 116; Alcibiades Illustrious, 127; A. quadricolor, 31; Alma Gevaert, 342; amerdense, 22; Antigone, 131, 132; A. album, 132; Aphrodite,
Cypripedium—
131, 132; Argo-Fairrieanum, 356; Argus (× Mastersianum), 253; Arthurianum-Sanderæ, 22; Arthurianum Sanderæ, 29; auburnense, 127; aureum, 66, 76, 101; Baronin Schey, 265; Bassano (× Fairrieanum), 25; Beeckmanii (× Leeanum), 375; bellatulum, 210; Bernal Bagshaw, 90; birkdalense, 122; Black Knight, 94; Bonar Law, 59: Bronzino, 55; Burtoni, 271; Carola, 156; Catiline, 57; Chairman, 158; Chamberlainianum, 104; Chapmanii Westonbirt var. 23; Charles Canham, 10; Chas. J. Catt, 248; Charlesworthii, 13; Clara Armstrong, 281; Clarksoniæ, 371; Clinkaberryanum (× Lavertonianum), 347; Curtophyllum, 182 Daisy Barclay, 280; Dauthieri, 102; D Albino, 102; D. Janet Ross, 102; D. Poggio Gherardo, 102; D. Rossianum, 102; Domingo de Larranaga, 347; Draco, 122; D. Westonbirt var. 26; Dr. Milligan, 78; Duchess of Argyll, 87; Duke of Marlborough, 86; elatior Shrubbery var., 24; Ellerdale, 340; etoniense, 48; Euryades, New Hall Hey var., 128; Eurybiades, 56; Faire Maud, 61; Fairrieanum, 68, 257; Fascination, 22; fasciolatum, 359; Fowleræ, 351; Franchetii, 358; Gaekwar, 55; Glebelands, 373; Golden Oriole, 56; Graceæ, 316; Greyi claytoniense, 189; grittletonense, 22; Harrisianum virescens, 102; Hassallii, 384; Hazel Vicars, 90; Hercules, 122; highfieldense, 271; himalaicum, 359; hirsutissimum (× aureum Hyeanum), 92; hortonense, 220; Idina, 86; insigne Gatton Park var., 54; i. Sanderæ, 15, (× Chamberlainianum), 351; James O'Brien, 23; James Renwick, 59; Jasper, 92, 375; Jessie, 340; jucundum, 57; Laconia, 86; Lady Dillon magnificum, 94; Lawrenceanum Gratrixianum, 132; L. Hyeanum (× niveum), 131; Leeano-Swinburnei, 22; Leeanum, 284, 285; Lion, 92; longwoodiense, 399; Lord Derby, 290, 311; Lord Wolmer, Westonbirt var., 9, 54; Lucernale, 123; luteum, 358, 359; luxembergense, 309; macranthum, 358; Magog, 90; Mancunium, 29; Marguerite Maron, 341; Mariæ, 22; Mary Lee, 63; Maudiæ, 322; memoria Alma Gevaert, 281; memoria Douglasii, 312; Mrs. Alice Walmsley, 59; Mrs. Canham, 10; Mrs. Du Cane Godman, 84, 85; Mrs. Mabel Waring, 62; Nellie, 13; nitens-Beeckmanii, 57; nitens magnificum (× Thompsonianum), 350; niveum, 104; niveum Ajax (× Lawrenceanum Gratrixianum) 131; Nizam, 55; nobilior, 210; Nora, 86; Nubia, 122; Nydia, 25; Our King, 58; Our Queen, 349; Overtonii, 28, 29; Pallas Athenæ, 62, 344; Pearl Beauty, 29; Prewettii (× Germaine Opoix), 153; Princess Wilhelmina, 94; Priscilla, 22; Reginald Young, 62; Roger Sander, 154;

Cypripedium—
Romulus, 79; Rothschildianum (× Charlesworthii), 182, 316; Royal Sovereign, 53, 90; Sallieri (× Euryades), 63; San-Actæus, 48; S.-A. Westfield var., 48, 57; Seymouriæ, 59; Simonii Mousme, 118; Spicerianum, 285; Suttoniæ, 104; Thomsonii (× Rupert), 125; tibeticum, 358, 359; tonsum, 13, 63; Ulysses, 86; viridissimum, 62; Winifred Hollington Brockhurst var., 309; W. R. Lee, 253.
Cypripedium, 1, 3, 66, 67; a curious cross, 284; malformed, 287.
Cypripediums, 20, 51, 210, 363; on limestone, 7; seedling, 178; winter-flowering, 327.
Cypripodium, 3.
Cyrtopodium punctatum at home, 16.

Dendrobium arachnites, 246; Arthur Legge, 152; Clio, 334; crumenatum, 203, 299; Dalhousieanum luteum, 193; eulophotum, 325; formosum, 146; glomeratum, 278; Golden Ray superbum, 121; Goldiei, 216; Imthurnii, 314; Kingianum, 178; lichenastrum, 203; Loddigesii, 186; Maccarthiæ, 307; monophyllum, 228, 246; nobile, 79, 237; n. nobilius (× n. elegans), 152; n. Rappartianum, 273, 320; Phalænopsis, 146; rosellum, 295; Schuetzei, 289, 308, 337; senile, 153; Serra, 295; speciosum nitidum, 58; superbum, 256, (in Trinidad), 144; teretifolium, 178; thyrsiflorum Galliceanum, 202; tortile, 229; Victoria-Regina, 17, 178, 202, (habitat of), 18; Wardianum (abnormal), 287.
Dendrobium collected for medicine, 236; roots, 300.
Dendrobiums, 114, 146, 275; Cool, 178; in Trinidad, 144.
Dendrophylax, 206, 263; funalis, 206, 263.
Diacatlælia, 362. Diacattleya, 362.
Diacrium, 261; bicornutum, 361.
Dialælia, 362; Veitchii and its parents, 361.
Diandreæ, 225, 226.
Diplocentrum, 206, 262.
Diplomeris, 228. Diploprora, 205.
Disa grandiflora, 336; kewensis, 334, 336; langleyensis, 334, 336; Luna 334; Premier, 334, 336; sagittalis, 120, 287; tripetaloides, 336; Veitchii, 334, 335, 336.
Disas, 303; culture of, 334.
Doritis, 205. Drymoda, 260.

Epicattleya radiato-Bowringiana, 203.
Epidendreæ, 260, 261.
Epidendrum Burtoni, 271; cochleatum, 77; difforme, 77; fragrans, 77; grandiflorum, 172; kewense, 76, 102; laterale, 319; radicans, 102; vitellinum, 364; Ruckeræ, 316; Stamfordianum, 320; tripunctatum, 208; verrucosum, 77; vitellinum, 16.
Epidiacrium, 362.
Epilælia distincta, 165.
Epiphronitis Veitchii, 101, 102, 243.
Epiphytes, 260, 261; evolution of, 261; growth of, 299; in the Eastern Tropics, 299.
Epiphytes and ants, 299.
Eria minutiflora, 300; rhynchostyloides, 319.
Esmeralda, 205.
Eulophiella Mackaiana, 40.
Eulophiella (the genus), 136; Elizabethæ, 107; Hamelinii, 136; Peetersiana, 138, 139, 140, 170.
Events of 1911, 4.
Evolution, 34; struggle for existence, 34; survival of the fittest, 34; of garden plants, 104.
Evolution of the Orchidaceæ, 204, 225, 260.

Fertilisation, 36, 37, 103, 264, 354; by insects, 264; causes of failure, 103; period of, 37; process of, 103; uncertainty of insect visits, 264; without transmission of characters, 141, 142.
Fertilisation and Secondary Hybrids, 36, 75.
Fungi, parasitic, 268.

Ghent Quinquennial Show, 32, 259.

Habenaria, 228; carnea (× militaris), 166; longicauda, 292; monorrhiza, 76.
Habenarias, 276. Harrisella, 77.
Holland House Show, 245.
Holothrix Schlechteriana, 303.
Homalopetalum, 77.
Houlletia Brocklehurstiana, 310; Wallisii, 280.
Huntleya, 263.
Huntleyinæ, 263.
Hybrid, 99; a mosaic, 76, 101, 235; character, 76; earliest artificial, 99.
Hybrid Age, 159, 161.
Hybridisation, 75, 100, 104; and selection, 103; definition of Hybridisation, 100; largely a question of opportunity, 100; mechanical limitations, 102, 103; phenomena of, 75.
Hybridising with mixed pollen, 355.
Hybridity, remains of, 76.
Hybrids, 75, 235, and species, 47; dissociation of character in, 34, 101; distinct from same seed-pod 355; Experiment by C. Wolley Dod, 99; false, 36, 37, 38, 40, 75, 100, 141, 294; fertile, 101; from nearly-allied species, 100; Graft, 102; mixed characters of, 101; multigeneric, 360; multiple, 101; mosaic character of, 102; natural, 99, 100; nomenclature of, 129; of 1911, 4; of unrecorded parentage, 66, 224; plant, 99; primary, 75, 101, 236; reproduced by self-fertilisation, 102; Rogues, 102; secondary, 75, 101; spontaneous, 99, 100; tendency to vary 104; trigeneric, 258; variation of secondary, 33, 36, 76, 234; wild, 100.

Ione, 262.
Ipsea speciosa, 204; Wrayana, 127.

KEEBLE, Prof. F., Physiology of Fertilisation, 354.

LÆLIA Alexanderi, 16; anceps, 47; (× autumnalis), 15; a. Sanderiana (× Cattleya Aclandiæ), 33, 85; Briseis, 10; cinnabarina, 361, (× C. citrina), 294, 295; (× L.-c. Ballii), 254, 319; Cowanii (× Cattleya Trianæ), 125; Crawshayana, 47; C. leucoptera, 6; Dayana delicata, 310; furfuracea, 47; Gortonii, 142; Gouldiana, 15, 16, 47; Groganii, 142; Jongheana (× C. Schilleriana), 218; leucoptera, 6; purpurata (× L.c. bella), 151; p. Schroederæ, 193; Statheræ, 173; tenebrosa (× Diana), 318; (yellow varieties of), 266; t. Victor Warburton, 266; t. Walton Grange var. 266, 267, (× C. Maronii), 283; xanthina (× C. intermedia alba), 218.

Læliocattleya, 97; Adolph-Harrisoniæ, 251; Adolphus (× C. Harrisoniana), 234; Alpha, Westonbirt var., 149; amabilis, 86, 125; a. Borlases var., 281; Amelia, 63; Aphrodite Borlases var., 216; A. Cowan's var., 216; Apollo, 186; Argus, 280; Baden-Powell, 176; Barbarossa, 350; Baroness Emma, 218; Bedouin, 168; bella alba, 57; Bertram, 183; bletchleyensis King George, 248; Bola, 343; Boylei, Veitch's var., 154; Britannia, 168; Bryan, 285; callistoglossa (× C. Mantinii), 343; (× C. Mendelii), 160; Captain Starkie, 59; Carmencita, 339; Ceres Princess Mary, 247; Cinnabal, 319; Cowanii, 216; de Hemptinne, 345; Delicia, 280; Denganii, 24; elegans (× C. Trianæ), 254; Endymion, 182; epicasta Premier, 25; Ethelæ, 311; Ettrick, 317; Eudora splendens (× B. Digbyana), 88; Euripides 151; eximia Blenheim var., 307; exoniensis (× C. Dowiana aurea), 22; Fabia, 280; fausta, 76, 101; Floryi, 55; Fred Gott, 308; Ganymede Southfield var., 218: Gladiator, 194; Glaucus, 278; Godmanii, 278; Golden Fleece, 281; Golden Oriole Holford's var., 345; Gottoiana, 10; Hastediana Glebe var., 311; Henrietta, 165; Hyeana (× B.-c. langleyensis, 182; Isabel Sander, 247; Ixion, 120; Kathleen Grey, 217; Lamorna, 369; Lucia, 198; luminosa, 215; (× C. Dowiana aurea, 368), (× Ernestii), 153; l. aurea, 267; l. Canary Bird, 214; l. Mandarin, 279; Lustre Buddha, 194, 241: L. Lavingo, 194, 240; Martinetii Southfield var. 217, 282; Mauretania, 252; McBeaniana, 154; memoria H. A. Tracy, 308; Minnie, 22; Mrs. Donald MacMaster, 307; Mrs. Phayre magnifica, 309; Mrs. W. Hopkins, 58; Nella, 54; Neleus, 307, 370; N. Sunset, 366; Nysa, 333; Oliveri, 255; Orama, 120, 154; Orion J. Lakin, 344; O. Othello, 372; Pelias, 184; Phœnix, 308; Blenheim var., 307; porphyrites, 318; Priam, 340; Prince of Orange, 24; Purple Queen, 254; Python, 247; rigida, 182; Robinii, 254; Rosslyn, 182; rubens Kaiser, 250; rubiginosa, 306; Sapphirata, 22; St. Gothard Glebe var., 308; Tigris, 116; Trimyra, 154; Uftona, 198; Ulysses, 195; U. alba, 195; venusta, 308; Virginia, 338; Walter Gott, 373; Wellesleyæ, 280; W. J. Biggs, 24.

Læliocattleyas, 327, 362.

Lælias, 211. Lælieæ, 260.

Lectandra parviflora, 300; pauciflora, 300; podochiloides, 300; tenuipes, 300.

Leptotes bicolor, 211.

Light, importance of, 325.

Liparis, Ugandæ, 215.

Lissochilus, 322; Andersonii, 293; Grantii, 322.

Listrostachys, 206; bistorta, 79; caudata, 297; forcipata, 305; imbricata, 294; O'Brieniana, 284, 292.

Lockhartia, 205.

Loeb, Chemical Character of Fertilisation, 141.

Lowiara, 360; insignis, 360. Luisia, 205.

Lycaste Balliæ, 119; Dyeriana, 202; lata, 294; peruviana, 293; Skinneri, 123, 134, 196; spectabilis, 196; Susan, 158.

Lycastes, 147.

MANCHESTER and North of England Orchid Society, 27, 58, 88, 121, 154, 186, 219, 253, 282, 312, 345, 374; Prizes for coming year, 286; Winners of Competitions, 221.

Masdevallia tovarensis, 52, 213, 328.

Masdevallias, 276, 328.

Maxillaria bractescens, 359; leucaimata, 316; phœnicanthera, 24; picta, 24.

Megaclinium lutescens, 293.

Mendelian analysis, 33; dominance, 100, (maternal), 141, (paternal), 37, 133; Law of Dominance, 34; Law of Gametic Purity, 34; Law of Segregation, 34; Unit characters, origin of, 34. Mendelism, 34.

Menephora, 2, 3. Mentum, 260.

Miltonia Bleuana, 243: (× Hyeana), 215; B. Rising Sun, 218; Hyeana, 24; H. Le Conquerant, 249; H. Vogelsang, 194; Jules Hye de Crom, 194; Roezlii, 243; Russelliana, (fertilised by dust), 354; vexillaria, 83, 243, 364; v. Empress Augusta Victoria, 214; v. Jurval. 183; memoria G. D Owen (× Bleuana), 171; v. Sanderæ, 217; v. Snowflake, 209, 216.

Miltonia (× Odontoglossum), 355.

Miltonias, 20, 115, 303.

Miltonioda Harwoodii, 171, 341.

Mischobulbum (the genus), 127; cordifolium, 127; grandiflorum, 127; lancifolium, 127; macranthum, 127; papuanum, 127; scapigerum, 127; Wrayanum, 127.

Monandræ, 34, 226, 260. Monomeria, 260, 262.

Monopodiales, 263. Mystacidium, 206, 262.

NAMES, and the use of the comma, 131; changing of well-known, 66; discordant, 97; of a single word, 130; of six words, 130; short, 131; specific, 130; varietal, 130, 131.

Natural Selection, 33.
Neomoorea irrorata, 98, 150, 170.
Neottieæ, 227.
Nephelaphyllum grandiflorum, 127; scapigerum, 127. Neuwiedia, 225, 263.
Nomenclature, 5, 65; confusion in, 65; of hybrids, 352; priority in, 258; question, 321; Rules of, 97, 130, 352; Where are we going? 131.
North of England Horticultural Society, 126, 158, 350. Notylieæ, 204.
Novelties, 293; constant stream of, 290, 291, 321; production of, 290; of 1911, 4.
Nye, H., leaf spot of Odontoglossum, 266.

OBITUARY—J. S. Bergheim, 292; F. M. Burton, 271; James Douglas, 10; Sir Joseph Dalton Hooker, 10.
Odontioda, 159, 161; Ajax, 166; bella, 149; Boltonii, 136; Bradshawiæ, 164, 318, (with two spikes), 149; B. Cookson's var., 371; B. gattonensis, 372; B. Lady Colman, 195; B. Vogelsang, 166, 195; Carmen, 185, 215, 319; Cecilia, 136; Chantecleer, 195; Charlesworthii, 185; C. Orchid Dene var., 342; chessingtonensis, 136; Cleopatra, 164; Cooksoniæ, 136; C. Fowler's var., 218; Coronation, 166, 167; Craveniana, 15; Devosiana Fowler's var., 308; Euterpe Davidson's var., 281; Felicia, 153; gattonensis, 149; Goodsoniæ Cobb's var., 154; Latona, 247; Leeana, 184; loochristiensis, 184; Maeterlinck, 170; Margarita, 289, 311; Mrs. F. M. Ogilvie, 194; Queen Mary, 194; Rolfei, 199, 217; Royal Gem, 183; Sanderæ, 136; S. Black's var., 149; Schrœderi, 33, 57; S. Leeana, 157; splendens, 158; Vuylstekeæ, 153, 239.
Odontiodas, 136, 164, 244.
Odontoglossum Adrianæ, 111, (× Ossulstonii), 140; Æsopus, 90; Aiglon, 171; amabile (× crispum Stevensii), 139, 140, (× percultum), 253; a. Duke of Portland, 194; a. Princess Mary, 195; ardentissimum Carmen, 195; armainvillierense (× crispum Boltonii), 217, (× Fascinator), 170, (× spectabile), 176; a. Dayanum, 119; a. Johnsonii, 80; a. xanthotes, 153; Aurora, 26, 306, 372; bellatulum, 12; Brayanum, 121, 133; Bronze Dragon, 59; Charlesworthii, Ward's var., 30; Chione, 24, 28; cirrhosum (× armainvillierense), 120, (× Ossulstonii), 140; citrosmum, 213; Clyte, 173; Collieri, 67; crispo-Wiganianum, 217; crispum, 76, 234, (× armainvillierense), 176, (× bellatulum), 12, (× Vuylstekei), 140, (blotched), 12, 71, 140, (double), 286, (42 years old), 141, (fungus of), 259, (peloriate), 143, (reversion), 79, ("scarlet"), 33, (sporting in), 71, (variation of seedling), 132, (yellow), 141; c. Alcyone, 54; c. Alpha, 176, 233, (× Franz Masereel), 176; c. Alphonso (× Franz Masereel), 233; c. Chapmaniæ, 25; Odontoglossum—
c. Formidable, 251; c. Franz Masereel, 233; c. General Roberts, (× Black Prince), 176; c. Gracie, 71; c. Graireanum, 157; c. James McNab, 195; c. Luci-Masereel, 95, 121; c. Mary Gratrix, 183; c. nigrum, 152; c. Olive, 87; c. Perfect Gem, 189; c. purpurascens, 202; c. Queen of the Morn, 58; c. Rossendale, 356; c. Saga, 183; c. Samuel Gratrix, 98, 151, c. Solum, 169; c. xanthotes, 87, 163; c. x. Lady of the Snow, 188; Delhi, 44, 65, 66, 130, 158; Edwardii (pollen), 133, 134; egregium var. Madame Jules Hye de Crom, 45; Electra, 78; elegantius (home-raised), 79, 118; Empress Eugenie, 279, 284; Epicaste, 251; Ethelreda, 252, 258; excellens eugenes (× Harryanum), 140; eximium excelsior, 171, 194; e. King George V., 194; e. McBean's var., 373; e. xanthotes, 188; Fascination, 117; Fascinator (x armainvillierense), 136; Godmanii, 117; grande, 332; Groganiæ, 133; Harmac, 94; Harrisonii, 238, 258; Harryanum (x crispum), 365, (× Lambeauianum), 355, (hybrids of), 356; harvengtense Crawshayanum, 84, 85; Helene, 281; hellemense, 355, 356; h. Butleri, 111, 355; h. Her Majesty, 194; Hilda, 189; His Majesty, 129; Honolulu, 185; Hyeanum, 183; illustre egregum, 167; Japonais, 160; Jasper, 121; Lambeauianum Princess Mary, 216; Leonard Cobb, 215; Leonidas, 215; loochristiense (× crispum), 143; majesticum James Whitton, 195; memoria King Edward VII., 143, 155; memoria Lily Neumann, 88; Merlin, 88; mirum, 129, 140, 355, 356; m. His Majesty, 130, 154; Miss Arline King, 254; Moor, 188; Nathaniel, 279; Neptune, 289, 311; nigrescens, 279; Orpheus, 65, 66, 124, 130; Ossulstonii (× eximium), 140, (× nobile), 191; percultum (× Vuylstekei), 217; p, King George, 250; p. purpurascens, 122; Pescatorei, 79; (× armainvillierense), 140, (× luteopurpureum), 176, (× Ossulstonii), 140; P. Floryi, 118; P. Mouche d'Or, 183; P. Veitchianum, 198; Phœdra, 177; Premier, 121; Prince of Wales, 187; promerens, 66, 130; p. Delhi, 158; Promereus, 65; Queen Mary, 220; ramos-Edwardii, 202; Roger Sander, 192; Rolfeæ, 279, (× Vuylstekei), 87; Rossii, 39, (× armainvillierense), 117, (× Wilckeanum), 341; R. albens, 346; R. immaculatum, 157; R. Royal Purple, 184; Ruby King, 62; Scottii, 247; scintillans, 349; Solon, 88, 141; spectabile, 173, 279, (× Vuylstekei), 140; splendidissimum, 198; Thais, 24, 58; T. Glebe var., 216; Thompsonianum; 78; tigrinum, 175; tripudians (× Harryanum), 182, 183; Uroskinneri (as a parent) 133, 134, (hybrids of), 133; U. Burford var., 185; Valeria, 117, 185; Volutella, 185; Voluminia, 117; Vulcan, 118; Vuylstekei (× Harryanum), 125, 155, (×

Odontoglossum—
Rolfeæ), 217 ; warnhamense, 141, 177 ; w. Stevensii, 177 ; Wilckeanum, 70 ; W. Alexandræ, 356 ; Woodroffeæ, 289, 311 ; Xerxes, 117 ; Yula, 85 ; Zephyr, 136.
Odontoglossum, abnormal. 288 ; from Edgbaston, 355 ; from Walton Grange, 140 ; of unrecorded parentage, 130 ; with name of six words, 130.
Odontoglossums, 69, 147, 213, 245, 275, 304 ; blotched, 12 ; disease of, 266, 267, 291 ; hybrid, 71, 161 ; leaf spot of, 266 ; seeding in a wild state, 354 ; seedling, 317, (early experiences), 317, raising of, 317.
Odontonia decora, 196 ; Edna, 250, 319; Firminii, 287 ; Lælia Sander, 196 ; Lairesseæ (× Cochlioda Nœtzliana), 170, 171, 258 ; ornata, 196 ; St. Alban, 199, 218.
Oncidioda cinnabarina, 278 ; Cooksoniæ, 272, 289.
Oncidium ampliatum, 46 ; anthocrene, 55 ; Ballii, 294 ; Cebolleta, 46 ; crispum, 333 ; Crœsus, 278 ; hybridum, 334 ; Jonesianum, 360 ; Kramerianum, 49 ; leucochilum, 179 ; luridum, 76, 77 ; panduriferum, 344 ; phymatochilum, 201 ; tigrinum (as a parent), 334 ; (× Cochlioda Nœtzliana), 334 ; (× Miltonia spectabilis), 334 ; × Od. crispum), 334 ; (× Od. Harryanum), 334 ; (× Od. Wilckeanum), 334.
Oncidiums, 52, 148, 179, 276, 365 ; Brazilian, 180. Ophrydeæ, 227, 228.
Ophrys, 228, (hybrids), 199, 255, (raised artificially), 199 ; arachnites (× aranifera), 255 ; aranifera, 255 ; bombyliflora, 255 ; Grampinii, 199 ; litigiosa virescens, 255 ; lutea (× aranifera), 255 ; tenthredinifera (× aranifera), 255.
Orchid Comet, 71.
Orchid Conference, 353, 354.
Orchid Notes and News, 31, 63, 95, 128, 159, 191, 223, 255, 285, 318, 351, 375.
*Orchid Review*, 353 ; General Index to, 322, 354.
Orchidists, Notable, Portraits of, 376.
Orchidology, biological side of, 67 ; Orchids, 225, 259 ; a delightful hobby, 8, 43 ; aristocrats of the vegetable world, 264 ; at the Birmingham Botanical Show, 282 ; at Burford, 202 ; at Glasgow and West of Scotland Horticultural Society, 313 ; at the Royal Society's Conversazione, 191 ; at the Yorkshire Gala, 221 ; autumn-flowering, 257 ; Awards to, 65 ; Cape, 376 ; Chinese, 223 ; characteristics of, 225 ; classification of, 263 ; collecting, 46 ; compost for, 51 ; development of, 263 ; epiphytic habit of, 260, 261 ; evolution of, 263, 264 ; exporting Orchids by Post, 269 ; floral structure of, 103, 260, 264 ; fly destructive to seedling, 176 ; fossil, 225 ; Formosan, 236 ; from Streatham, 136 ; fungus diseases of, 224 ; heterochronic, 264 ; improvement of, 103 ; in season, 31, 62, 78, 127, 143, 173, 198, 254 285, 318, 350 ; Jaimaican, 76, 77 ; leafless, 263 ; leaf-structure of, 261 ; lost, 257 ; monopodial growth of, 263 ; origin of, 264 ; Panama, 46 ; potting, 50 : primitive, 225 : raising, 42 ; roots, 299, (ærial), 262, 263 ; seeds of, 103, 141, 227, 264 ; specimen, 290 ; spot disease of, 239, 259, 266 ; Tasmanian, 288 ; watering cool, 109 ; winter treatment of, 332.
Orchis, 228 ; foliosa, 100 ; mascula (albino form of), 319.
Ornithidium Sophronitis, 371.
Ornithochilus, 206.
Osmunda fibre, 192 ; source of, 132 ; Wanted a name, 132. Osmundine, 132.
Our Note Book, 1, 33, 65, 97, 129, 161, 257, 289, 321, 353
Ovary, retarded development of, 264.
Ovules, 354 ; development of, 103 ; micropyle of, 103.

PACHYPHYLLUM, 205.
Paphiopedilum, 1, 2, 3, 66, 67.
Parthenogenesis, 142, 354, 355 ; artificial, 142.
Parthenogenetic buds, 37, 40.
Peristeria elata, 46, 82.
Pescatorea Roezlii, 280.
Pfitzer, classification by vegetative characters, 263.
Phaius, 82, 212 ; Cooperi, 293 ; grandifolius, 77, 237.
Phalænopsis, 52, 205, 212, 326 ; Aphrodite, 236 ; Harriettæ, 68 ; Schilleriana, 119.
Phragmipedium, 2. Phragmopedilum, 2.
Pigeon Orchid, 299. Pleiones, 83, 244.
Pleurothallis platystachys, 204.
Podochilus lutescens, 203.
Pœphyllum (the genus), 300 ; parviflorum, 300 ; pauciflorum, 300 ; podochiloides, 300 ; tenuipes, 300. Pogonia, 226.
Pollen, 264 ; tubes, 102, 103, 354 ; Use of mixed pollen, 272.
Pollinarium, 34.
Pollinary appendages, 262.
Pollination, 36, 37, 103, 264, 354, 355 ; effect of, 103, 264 : stimulus of, 37, 142.
Pollinia, 225, 226, 260 ; structure of, 227.
Polystachya paniculata, 151.
PORTRAITS.—ANGRÆCUM sesquipedale, 192. —BRASSOCATTLEYA Digbyano-Mossiæ Westonbirt var., 192 ; heatonensis Holford's var., 288 ; Maroniæ, 64 ; The King, 224 ; Wellesleyæ, 128. —CALANTHE Angela, 32 ; Chapmanii, 32 ; Clive, 32 ; Cooksoniæ, 64 ; Veitchii, 32. —CATTLEYA Artemis, 256 ; Brenda, 128 ; Dirce, Westonbirt var., 160 ; Fabia, 376 ; gigas Low's var., 256 ; labiata, 96 ; Maggie Raphael alba Orchidhurst var., 96 ; Mossiæ var. A. Dimmock, 288 ; Oberon, 376 ; Peetersii Westonbirt var., 376 ; Warscewiczii alba Firmin Lambeau, 256 ; W. Low's var., 288,—CŒLOGYNE cristata, 32, 128 ; Dayana, 32. —Cymbidium Doris, 376 ; eburneum, 160 ; Lowianum, 32 ; Schlegeli, 64, 96 ; Woodhamsianum

Portraits—
Fowler's var., 192.—CYPRIPEDIUM bellatulum, 288 ; Chapmanii Westonbirt var., 32 ; Charlesworthii, 64 ; Draco, 32 ; Lawrenceanum, 32, 256 ; Leeanum giganteum, 64 ; Lord Wolmer, 96 ; L. W. Westonbirt var., 32 ; Mrs. Bostock, 352 ; Nellie, 64 ; Pallas Athene, 352 ; Royal George, 192 ; Royal Sovereign, 192 ; spectabile, 64, 160 ; tonsum, 64 ; Venus, Oakwood var., 96.—DENDROBIUM Ainsworthii, 32 ; Apollo albens, 192, 256 ; densiflorum, 96 ; Imthurnii, 320 ; nobile nobilius, 32 ; Schuetzei, 320. —DISA lugens, 64 ; sagittalis, 192.—EPIDENDRUM Stallforthianum, 96.—ERIOPSIS Helenæ, 376.—HABENARIA conopsea, 96.—LÆLIA anceps var. G. D. Owen, 96.—LÆLIOCATTLEYA Aphrodite Lord Faber, 224 ; Baroness Emma, 256 ; Bedouin, 224 ; bella alba Dell var., 64 ; Canhamiana, 192 ; Fascinator-Mossiæ, 256 ; Gladiator, 192 ; Helius, 192 ; Lustre var. Buddha, 256 ; L. var. Lavingo, 224 ; McBeaniana, 160 ; memoria H. A. Tracy, 320 ; Mrs. W. Hopkins, 64 ; Nella, 32 ; Orion var. Othello, 376 ; Prince of Orange, 64 ; rubens The Kaiser, 256 ; Salome, 192 ; S. var. Pavlova, 376.—LYCASTE Balliæ, 128 ; Skinneri, 32.—MILTONIA Jules Hye de Crom, 224 ; vexillaria, 32 ; v. memoria Baron Schröder, 376 ; v. Snowflake, 224.—ODONTIODA Cooksoniæ Fowler's var., 224 ; Lambeauiana Westonbirt var., 352 ; Madeline, 288 ; Queen Mary, 192, 224.— ODONTOGLOSSUM amabile Westonbirt var., 256 ; Armstrongiæ, 192 ; Chione, 32 ; crispum, 224 ; c. Bumble-bee, 244, 288 ; c. Franz Masereel, 376 ; c. Saga, 160 ; c. Samuel Gratrix. 128 ; eximium King George, 224 ; Her Majesty, 224 ; Jasper, 128 ; memoria Lily Neumann, 96 ; Merlin, 96 ; Pescatorei Charlesworthii, 256 ; Queen of Gatton, 128 ; Thais, 64 ; Uroskinneri Burford var., 192 ; Vulcan Crawshayanum, 128.—ODONTONIA Edna, 256.—SCHOMBURGKIA Lueddemanniana, 160.—STANHOPEA oculata, 288 ; peruviana, 96.—VANDA cœrulea Lady Holford, 376 ; Sanderiana, 32 ; Watsoni, 160.—ZYGOPETALUM Brewii, 320 ; Mackayi, 64 ; M. var. Charlesworthii, 96.
Prain, Lt. Col. D., 64, 95, 224.
Pseudobulbs, 261, 263. Pterostylis, 227.

RENANTHERA, 206.
Reversion, 76. 101.
Rhynchostylis, 205.
Ridley, Relations of Ants to Epiphytes, 299.
Rolfe, F. W., Leaf spot of Odontoglossum, 268.
Rolfe, R. A., Orchids of Flora Capensis, 376: Study in Dominance, 133.
Rostellum, 34, 35, 225, 226, 227, 260, 262; function of, 226.
Royal Horticultural Society, 21, 53. 84, 116, 148, 181, 214, 250, 277, 306, 338, 366;
Royal Horticultural Society—
Autumn Orchid Show, 31, 230, 318, 353, 366 ; Objects of, 291 ; open letter to the Council of, 290 ; Orchid Committee, 74 ; Orchid Conference, 190, 230, 257 ; Scientific Committee, 286, 319
Royal International Horticultural Exhibition, 63, 98, 107, 129, 159, 161, 162, 163, 193. 267, 376 ; and the R.H.S., 207.

SACCOLABIUM, 206 ; fragrans, 229.
Saprophytic habit, 227.
Sarcantheæ, 204, 263. Sarcanthus, 206.
Sarcochilus, 205 ; Hartmanii, 153.
Sarcopodium Lyonsii, 183. Satyrium, 227.
Scelochilus variegatus, 287.
Schomburgkia, 261 ; Lueddemannii, 288 ; undulata, 288.
Seeds, 103, 227, 354 ; number of minute, 264 ; processes of germination, 141.
Selection process of, 104.
Selenipedium, 3. Shading, 53.
Shafer, Rambles in Panama and Jamaica, 46.
Sigmatostalix peruviana, 294.
Smith, Albert C., 351.
Sophrocatlælia, 97, 98 ; Elissa, 339 ; Helen, 344 ; Marathon, 98 ; M. Helen, 25 ; M. Vesuvius, 87, 98 ; Menippe H. F. Goodson, 345 ; Sandhaghe, 188, 345.
Sophrocattleya Dora, 309 ; Lottie Müller, 26. Sophrocattleyas, 242, 363.
Sophrolælia Irene, 342 ; Leda, 254 ; Miss Edith d'Abre, 59. Sophrolælias, 242.
Sophro - Lælio - Cattleya, 97 ; Marathon Vesuvius, 97.
Sophronitis grandiflora, 70, 102, 152, 242.
Species, 75 ; and hybrids, 47, 235 ; fixity of character in, 104 ; true from seed, 235.
Specific character, 34, 102.
Specific character, permanence of, 235.
Specific differences, 33.
Spiranthes, 227. Sports, 102.
Stanhopea anfracta, 316 ; Bucephalus, 172 ; convoluta, 316 ; eburnea, 172 ; elegantula, 293 ; grandiflora, 172 ; insiginis, 172 ; Jenischiana, 172 ; oculata, 172.
Stauropsis, 205 ; lissochiloides, 360.
Stigma, 228.
Stimegas, 2
Style, length of, 102, 103.
Sympodiales, 263.

TÆNIOPHYLLUM, 206, 263.
Tainia atropurpurea, 127 ; cordifolia, 127 ; macrantha, 127.
Thecostele alata, 237 ; maculosa, 237 ; Maingayi, 237 ; quinquefida, 237 ; secunda, 237 ; Wrayi, 237 ; Zollingeri, 237.
Theodorea gomezoides, 278. Thrip, 332, 335.
Thunias, 81, 212. Trichoglottis, 205.
Trichopilia Gouldii, 27 ; suavis, 24.
Trichopilias, 212, 244, 364.
Trichotosia podochiloides, 300.

UNIT-CHARACTERS, origin of, 34.
Uropedium, 2.

VANDA amœna, 45 ; confusa, 45 ; Charlesworthii, 45 ; cœrulea, 148, 277, 308, 323, 371 ; (cult. in America ), 323, 324 ; (specimen of), 290 ; c. alba, 59 ; c. albidula, 31 ; c. Lady Holford; 373 ; c. Luton Hoo var., 311 ; Griffithii, 237 ; Moorei, 45 ; Sanderiana. 324, (cult. in America), 323 ; teres, 180. Vandas, 364.
Vandeæ, 34, 262, (stipes of), 262.
Vanilla, 227 ; planifolia, 184, 196.
Variation, 33 ; among secondary hybrids, 234 ; and heredity, 33.
Veitch, Harry J., 41, 173, (Introductions of) 42 ; Fertilisation of Cattleya Mossiæ, 42 ; Orchid hybrids, 42.
Velamen, 261.
Vuylstekeara, 171, 258 ; Hyeana, 171, 258 ; insignis, 171, 258

WARREN, C., Odontoglossum disease, 268.
Watering, 325.
Westonbirt, some rarities at, 360.
Wilson, E. H., V. M. H., 95.
Wilson's, Mrs. G. B. collection, 68.

XYLOBIUM (the genus), 43, 359 ; bractescens, 359 ; Cœlia, 43 ; hypocritum, 43 ; leontoglossum, 43 ; miliaceum, 43 ; ornatum, 43 ; squalens, 43 ; truxillense, 43 ; undulatum, 43.

ZYGOCOLAX Charlesworthii, Cobb's var, 86.
Zygopetalinæ, 263.
Zygopetalum. 36, 37, 40 ; Armstrongiæ, 195 ; Brewii, 251 ; intermedium, 40 Mackayi, 36, 40, (Hybridisation of), 40 ; (hybrids of), 101 ; (× Odontoglossum crispum), 142 ; M. Charlesworthii, 72, 86 ; maxillare Sanderiana, 311.
Zygopetalum crosses, 355 ; hybrids, 37, 38 ; (false), 38 ; × Lælia, 40 ; × Odontoglossum, 40, 354, (second generation), 142.
Zygopetalums, 147, 365. Zygote, 354.

# LIST OF ILLUSTRATIONS.

Anguloa Clowesii . . . . . 105
Brassocattleya Veitchii Holford's var. . 112
Cattleya Iris var. King Edward VII. . 339
Cattleya Peetersii Westonbirt var. *Frontispiece*
Chondropetalum Fletcheri . . . . 73
Cycnoches chlorochilon : female flower 329
Cycnoches densiflorum . . . . 331
Cycnoches maculatum . . . . 315
Cypripedium Baronin Schey . . 265
Cypripedium Chamberlainianum . 104
Cypripedium Charlesworthii . . 13
Cypripedium Franchetii . . . . 359
Cypripedium Lord Wolmer Westonbirt var. . . . . 9
Cypripedium Nellie . . . . . 13
Cypripedium niveum . . . . . 104
Cypripedium San-Actæus Westfield var. . . . . 48
Cypripedium Suttoniæ . . . . 104
Cypripedium tonsum . . . . . 13
Dendrobium nobile Rappartianum . 273
Denbrobium Schuetzei . . . . 337
Dendrobium superbum . . . . 144
Dendrobium Victoria-Regina . . 17
Diacrium bicornutum . . . . 361
Dialælia Veitchii . . . . . 361
Disa grandiflora . . . . . 336
Disa kewensis . . . . . 336
Disa langleyensis . . . . . 336
Disa Premier . . . . . 336
Disa tripetaloides . . . . . 336
Disa Veitchii . . . . . 336
Eulophiella Elizabethæ . . . 137
Eulophiella Peetersiana . . . 138
Hooker, the late Sir Joseph Dalton, O.M. . . . . 11
Lælia cinnabarina . . . . . 361
Læliocattleya Britannia . . . 200
Læliocattleya Lustre var. Buddha . 241
Læliocattleya Lustre var. Lavingo . 240
Listrostachys caudata . . . . 297
Listrostachys forcipata . . . 305
Miltonia vexillaria var. Snowflake . 209
Neomoorea irrorata . . . . . 150
Odontoglossum armainvillierense var. Johnsonii . . . . . 80
Odontoglossum crispum, variation of seedling . . . . . 232
Odontoglossum crispum Franz Masereel . . . . . 233
Odontoglossum crispum Perfect Gem 189
Odontoglossum crispum Solum . . 169
Odontoglossum Delhi . . . . 44
Odontoglossum Rossii immaculatum . 571
Odontoglossum warnhamense var. Stevensii . . . . . 177
Oncidium Kramerianum . . . . 49
Oncidium phymatochilum . . . 201
Veitch, Harry J., F.L.S., V.M.H. . 41
Zygopetalum Mackayi var. Charlesworthii . . . . . 72

R. W. SIMPSON & CO., LTD., PRINTERS, RICHMOND AND LONDON.

# IMPORTED ORCHIDS

**CONSIGNMENTS ARRIVING EVERY FEW WEEKS - -**

ESTABLISHED - - ORCHIDS.

**A wonderful selection of Botanical Orchids, Cheap, healthy, showy Orchids for Amateurs. - - Choice Orchids - -**

**NURSERY ENTIRELY DEVOTED TO ORCHIDS.**

***WRITE FOR CATALOGUES.***

## MANSELL & HATCHER, Ltd.

(Formerly trading as Moore, Ltd.),

**RAWDON, YORKS.**

---

## STUART LOW & Co.

Invite an inspection of their large Range of Orchid houses in which there are always plants of interest in flower.

Catalogue and Quotation Free on Application.

**BUSH HILL PARK, ENFIELD, Middlesex.**

---

# ORCHIDS.

Clean, healthy, well-grown plants at reasonable prices; many large specimens and rare varieties.

**CHOICE CATTLEYAS, CYPRIPEDIUMS, AND . . HYBRID ORCHIDS A SPECIALITY.**

*Please write for List.*

## JAMES CYPHER & SONS,

*EXOTIC NURSERIES*

CHELTENHAM.

---

# ORCHIDS!

**SPECIES AND HYBRIDS.**

Good healthy plants at reasonable prices.

## J. & A. McBEAN,

**COOKSBRIDGE, SUSSEX.**

---

## Smith's Pollen Preserving Tubes

(REGISTERED).

These tubes are scientifically designed for the storage and preservation of Orchid and other pollens. They are the most reliable appliance for the purpose, and will be found by all Hybridists to fill a long-felt want. The potency of Orchid pollen stored in these Tubes for 9 months has been proved by repeated experiments

**Prices: 10/6 per doz., 5/6 per half-doz.**

Full particulars with Tubes.

*Sole Agents—*

## A. J. KEELING & SONS,

**Westgate Hill, Bradford, Yorks.**

---

COOPER'S ANTI-FUNGUS REGD

**Cooper's Anti-Fungus (Regd.)**

These Labels are undoubtedly

## The THINGS for ORCHIDS.

**They never decay, are neat and clean everlasting wear, therefore cheap.**

MADE IN ALL SIZES.

Prices—2in. 1/-; 3in. 1/6; 4in. 2/3; 5in. 3/3; 6in. 3/9 per 100.

Samples free from. : : :

**COOPER & SON,**

**MIDDLEBORO' ROAD, COVENTRY**

---

## MANCHESTER & NORTH OF ENGLAND Orchid Society.

HEADQUARTERS: THE COAL EXCHANGE, MARKET PLACE, MANCHESTER.

MEETINGS of the COMMITTEE for the purpose of adjudicating upon the Orchids submitted will be held at the Coal Exchange, Manchester, on December 5 and 19, 1912, and January 2, 1913.

Open to Members from 1 to 4 p.m.

H. ARTHUR, Hon. Sec.,
Pine Villas, Mollington Road Blackburn

BY APPOINTMENT

WARRANT HOLDERS TO HIS MAJESTY THE KING.

# SANDER & SONS

## Largest Growers, Importers & Exporters of

# ORCHIDS.

## Cattleya Trianæ

## Cattleya Gigas Sanderiana

We expect in a few weeks

## 400 CASES OF THESE CATTLEYAS,

— also —

## 40,000 DENDROBIUM PHALÆNOPSIS SCHRODERIANUM.

---

**Intending purchasers are respectfully requested to let us know their wishes so that we may advise them when the cases arrive.**

---

# SANDER & SONS,

ORCHID GROWERS AND IMPORTERS, **ST. ALBANS.**

---

R. W. SIMPSON AND CO., LTD. PRINTERS, RICHMOND, LONDON.